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## A Pilot Feasibility Study of Mindfulness Training for Young People

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**A Pilot Feasibility Study of Mindfulness Training for Young People**

By

Ruma Devi Luckeenarain

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requirements for the degree of**

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**Abstract**

Research within the adult population of mindfulness-based intervention indicates to a large extent its effectiveness in promoting well-being and psychological health. The study of mindfulness-based intervention with the adolescent population is becoming increasingly popular and research in this field is expanding rapidly. There is, however, little research so far investigating the use of mindfulness training for urban young people from disadvantaged and socially excluded communities. These individuals are the target of the pilot feasibility study of mindfulness training for young people (n=5). The aim of the study was to assess the feasibility and acceptability of the five weeks Body in Mind Training Programme (BMT), and explore its efficacy in the targeted young people. It tested the hypothesis that young people from disadvantaged and socially excluded communities who have completed BMT will show: (a) improved self-esteem as measured by the Rosenberg Scale for self-esteem (b) reduced perceived stress as measured by the Perceived Stress Scale and (c) be more mindful as measured by the Mindfulness Attention Awareness Scale for Adolescents (MAAS-A). Eighty percent of the sample (n=4) reported lower PSS scores at the end of the training, 60% of the sample (n=3) showed a decrease in self-esteem following the training, and 40% (n=2) had a lower mean MAAS score after the training. The findings of this study do not allow firm conclusions, due to the small sample size and high dropout rate.

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## **Chapter One**

### **Mindfulness**

#### **1.1 Introduction**

Mindfulness is defined as ‘purposefully paying attention in a particular way, non judgmentally and in the present moment’ (Kabat-Zinn, 1994). In the last decade the interest and the research into mindfulness and mindfulness based interventions as a clinical tool has increased exponentially (Baer, 2003; Chiesa and Serretti, 2009; Grossman et al., 2004). Over this period there have been many attempts to revise its conceptual definition to give a clearer and more succinct meaning to the concept for clinical purposes (Black, 2011). Accumulating evidence from studies of those Mindfulness based interventions suggests that they are potentially useful for the treatment of a variety of mental and physical disorders as well as for the reduction of stress levels in healthy subjects. (Lynch et al., 2007; Pull, 2009; Chiesa and Serretti, 2009).

This chapter will discuss mindfulness and how mindfulness based interventions have been used as a clinical tool and as a schools project [ Mindfulness in Schools Project (MiSP), of “Stop, Breathe and Be,” abbreviated simply as the .b (Mindfulness in Schools, 2014)]. It will initially take a look at its historical background and a review of how mindfulness has developed, following the ground breaking work of Dr Kabat-Zinn. Taking into consideration how this has led to a significant shift in the use of mindfulness which eventually brought more attention to its clinical and psychotherapeutic possibilities as well as its use in schools. Next it will examine the problems associated with its definition and the different components that make up the practice along with the mechanisms that underpin the effects of mindfulness and the various measures of mindfulness. Afterwards, the chapter examines the use of mindfulness in non-clinical populations such as young people in schools. It will summarise various studies that made use of MiSP in schools. The development of

programmes to teach mindfulness in schools was preceded by the realization of its many potentials. This includes promoting young people's social and emotional functioning (Miners, 2008) and also to improve their academic performances (Beauchemin et al., 2008; Semple et al., 2005) and has led to the development of programmes to teach Mindfulness in schools. Following on from that it will also summarise studies with young people in education. It will highlight common difficulties encountered by young people from disadvantaged communities. Last but not the least, the chapter will look at the efficacy supporting its application in modern clinical practice and how the field has developed with a summary of the groups of studies that have used mindfulness for the treatment of various psychiatric and psychological conditions, and the potentials for new areas of application. For the purpose of this thesis, the term young people, refers to participants within the age group of 16 and 24 years old, as opposed to that of adolescents, where the age ranges between 13 and 19 years. Following Rutter and Smith (1995), young people were defined as those between 12 and 24 years old. This is the age range of the studies considered in the literature review.

## **1.2 Historical Background**

Mindfulness practices and principles stem from contemplative, cultural and philosophical traditions whose origins can be traced as far back as 2,500 years ago as part of Buddhist traditions (Rosenberg, 1998). Mindfulness, being rooted in Buddhist traditions, is thus derived from the Pali language in which a direct translation of the combination of Sati and Sampajana denotes awareness, circumspection, discernment and retention (Shapiro and Carlson, 2009). In the past, mindfulness was seen as a mysterious concept heavily linked to religious, spiritual or cultural beliefs which could only be attained by certain people through certain practices such as meditation. Mindfulness is now globally considered as the innate or intrinsic characteristic of human consciousness (it is attention and awareness capacity), with empirically

measurable variabilities within and between individuals, inherently independent of religious, spiritual and or cultural beliefs (Black, 2011).

A wider cultural shift in the West in terms of contemplative philosophies and practices such as yoga, Tai-Chi, meditation and prayer, coincided with the first significant shift in the application of mindfulness practices in mainstream society, medicine and academia (MacCown et al., 2010). The work of Jon Kabat-Zinn and his research on the mind and body interactions for healing is the root source of Mindfulness practices in the West. His work also examined precisely how emotional stresses are processed by the brain and how such stresses affect the immune system. He examined critically how the different clinical applications of mindfulness meditation training and the effect that practicing moment-to-moment awareness had on the brain and on people with brain and stress-related disorders. His work at the Massachusetts stress reduction clinic combined the practice of Hatha Yoga and Buddhist Zen teachings with western science to develop the mindfulness-based stress reduction programme (MBSR). This is a mindful practice programme of an eight week duration proposed to help patients cope with stress, pain and illness employing 'moment-to-moment' awareness and the use of their inner resources for effective management of such, as well as to achieve good health and well-being (Kabat-Zinn, 1990).

The publication of the 'Full Catastrophe Living' was the culmination of Jon Kabat-Zinn's work in 1990. In it he gave the full details of the mindfulness based stress reduction programme (MBSR) developed by him in 1979. This was seen by many as a watershed moment that brought mindfulness to the fore, allowing the concept to be easily accessible to a general audience and led to further discourse in the field of academic medicine (MacCown et al., 2010; Dryden and Still, 2006). Jon Kabat-Zinn's MBSR programme was globally hailed as a vital tool in dealing with medical conditions but it focussed primarily on people with varying conditions such as chronic pain and heart disease and the use of mindfulness to treat physical ailments. The second important shift came about through the work of Segal, Williams and Teasdale (2002).

Borrowing heavily from the material within the MBSR programme (after initially taking the course and becoming practitioners) they developed a new method for the treatment of psychological problems (in this case major depressive disorder) using the mindfulness-based approach originally proposed by Kabat-Zinn.

MBCT is psycho-therapy and the amalgamation of the features of cognitive therapy and that of mindfulness techniques (Segal et al., 2002; Chiesa and Seretti, 2010; Teasdale et al., 2000) as Kabat-Zinn describes it. It provided the debut union of eastern meditative practices (mindfulness meditation) and western psychological epistemologies (cognitive therapy) in a perfectly consistent combination (Segal et al., 2002). The MBCT programme enabled people to discard their old cognitive routines described as dysfunctional, habitual and automatic, as a means of reducing the risk of future relapse and the recurrence of major depression (Segal et al., 2002; Chiesa and Seretti, 2010). Although the treatment of depression was the sole focus of their study, the implications of their work went beyond that and provided potentially useful theoretical and therapeutic windows into a range of mental disorders (Segal et al., 2002). The application of treatments with a mindfulness basis was a new direction and a transformation of common ideals, initiated by the work of Segal and colleagues. It led to the fusion of psychological distress, mindfulness-based orientation and physical ailments (Segal et al., 2002).

### **1.3 Definition & Its component parts**

The complex phenomenon of the construct, that is Mindfulness, requires the application of testable theories to further progress the understanding of the beneficial outcomes resulting from mindfulness based interventions in clinical settings (Shapiro et al., 2006; Carmody et al., 2009; Brown and Ryan, 2004). Since its introduction into the mainstream of modern western science, many scholars have developed their own definitions to describe the concept of mindfulness. These definitions have been very useful in helping design a construct for the term and advancing its awareness in the

general population as well as the healthcare settings.<sup>1</sup> However it must be noted that there is no one true definition of mindfulness and each one proposed is shaped by assumptions and aims of the individual proposing it to provide a working definition (MacCown et al., 2010). The progress of research on finding out the active components of mindfulness interventions and mechanisms of change has been impeded by the lack of a generally agreed definition of mindfulness (Langer and Moldoveanu, 2000). As Clark and Watson (1995) state, a sound measure must be based on “a precise and detailed conception of the target construct”. Part of the difficulty with this is the necessity of understanding closely related constructs such as acceptance and decentring (Carmody et al., 2009). Some describe them as components or elements of mindfulness (Orsillo et al., 2005; Dimidjian and Linehan, 2003) whereas others argue that they are more outcomes of practicing mindfulness (Bishop et al., 2004) or even skills that aid in fostering mindfulness (Brown et al., 2007).

The most acceptable and recognised Western definition of mindfulness is that of Jon Kabat-Zinn, one of the key founders of mindfulness. His definition based on his explanation is now a landmark definition. According to Black (2011) the common underlining theme of mindfulness is ‘a general receptivity and a full engagement of the present moment’. The relative unawareness of people to their deep seated behavioural habits and the consequent movement through life on more or less partial automatic pilot, led to this core assumption behind mindfulness. This assumption is shared with cognitive science and most psycho-therapy (Kabat-Zinn, 1990; McCracken, 2005). Mindful behaviour requires an individual to be fully engaged in the happenings of the present moment, both in the outer world and their responses to it. Black goes further to suggest that mindfulness can be better understood by contrasting it with the experiences that occur during mindlessness. In this situation, there is a direct contrast as it occurs when awareness capacities and attention are unfocussed because the

---

<sup>1</sup> For instance there have been efforts within the discourse of mindfulness based interventions (MBIs) to develop a single, scientific account of mindfulness for researchers and clinicians.

mind is being unsettled with memories of the past and future ideas or tensions. Thus resulting in the impairment to the awareness and attention of the present moment .

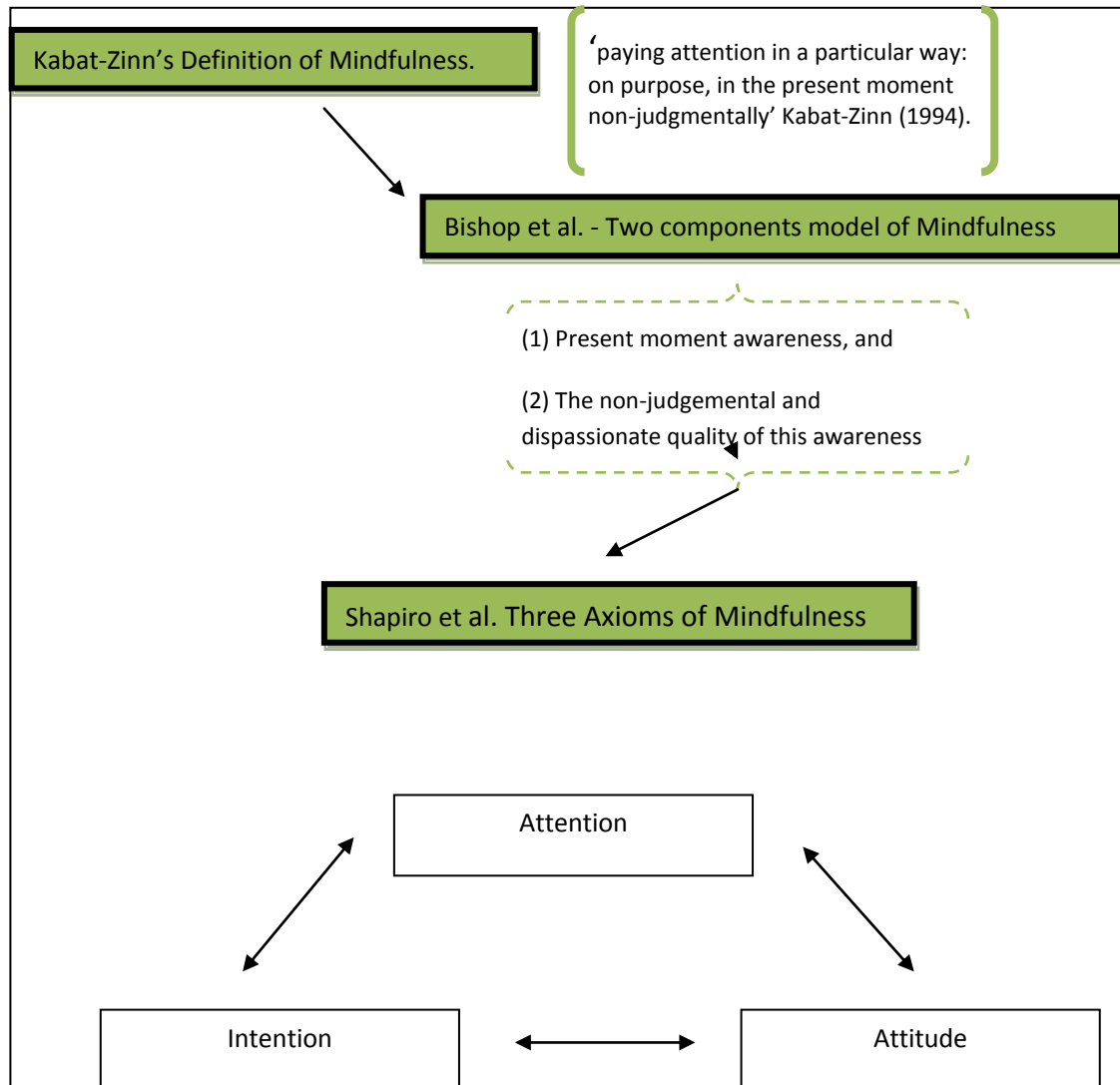
The involvement of active attention leading to awareness is the first part of Kabat-Zinn's definition that dwells on the idea that mindfulness is an active process. The emphasis on the present, rather than the past or future is the highlight of the second part of his definition. The accepting , non judgmental feature of the attention, without perusing on the good or bad, right or wrong, non-importance or importance of the experience of the present moment, is the third part of his definition. It entails focussing on the external environs of sights, sounds and smells in addition to that of inner bodily sensations of thoughts and feelings. It is thought that the practicing of mindfulness leads to the awareness of present internal and external experiences and to be able to deal with another present moment experience, there is the need to observe carefully, accept and let go of them (Hooker and Fodor, 2008). Subsequently, a non judgmental awareness of greater proportions in one's own impulses and thought patterns ensues and should ultimately lead to a decrease in emotional reactivity and vulnerability (Thompson and Gauntlett-Gilbert, 2008).

#### **1.4 Mechanics of mindfulness**

Using Kabat-Zinn's definition, attempts have been made to bring into existence, a functional definition of mindfulness to help provide a clearer understanding of the pertinent processes of its basis. Bishop et al. (2004) suggested a model with two main considerations: (1) awareness of the present moment, (2) awareness with a non-judgmental and dispassionate quality (MacCown et al., 2010; Carmody et al., 2009; Shapiro et al., 2006). A second generation model tries to provide an agreed basis on which to form an exact understanding of the initial mechanism of the actions entailed in the practice of mindfulness. This model has become widely known in modern day psychology and behavioural medicine (Baer et al., 2006) and states that mindfulness results from the simultaneous development of three key components, namely:

1. Intention: Clear intent as to why one is practising mindfulness (e.g. self regulation)
2. Attention: Observation of the moment-to-moment experience without interpretation, elaboration, or analysis.
3. Attitude: an approach characterized by a position of acceptance, kindness, compassion, openness, patience, curiosity and non-evaluation.

**Figure 1: The development of a mechanism for mindfulness.**



Shapiro et al. (2006) maintain that by using this model of intention, attention and attitude (IAA) we can get a better understanding of how mindfulness works. It is important to understand however that these three established principles are not independent processes in the practice of mindfulness but each one plays a part in the whole direct experience of the practitioner and are directly linked to each other in the one cyclical process, simultaneously happening together (Carmody et al., 2009; MacCown et al., 2010).



Shapiro et al. (2006) further elaborate that these three principles are the basic components from which other things arise and ultimately lead to a significant alteration in focus. This shift or alteration is claimed to be at the crux or centre of the change and transformation of mindfulness practice and naturally occurs in the development process of all beings. This alteration of focus they define as 'reperceiving' describing it as change in relation to perceived experiences. Reperceiving is explained as a meta-mechanism of action that results in greater composure, objectivity and clarity, eventually leading to change and positive outcome. They also propose that reperceiving helps facilitate extra direct mechanisms of values clarification, self regulation, exposure, cognitive and emotional flexibility. These mechanisms on their own could become a direct outcome or could contribute to or become mechanisms for other outcomes such as the reduction of symptoms. However, sound methods of assessment of these variables need to be further developed to test this theory (Carmody et al., 2009).

### **1.5 Measures of Mindfulness**

As explained earlier, mindfulness is hard to define and therefore it is hard to truly understand the component parts that are significant in the practice that leads to positive outcomes. It is important, however, to investigate these mechanisms and processes in order to fully justify the efficacy of this type of intervention (Bishop et al., 2004; Shapiro et al., 2006). Psychometrically sound measures of mindfulness are needed to determine whether an increased level of mindfulness is attained from the practice of mindfulness and whether the changes observed are related to the psychological functioning improvements, (Baer et al., 2004; Brown and Ryan, 2004; Dimidjian and Linehan, 2003). However, a holistic picture of a characteristic cannot be provided by one single method of psychological assessment (Carmody et al., 2009). Each method of a measure may provide useful data not given by another, all exhibiting their own strengths and weaknesses. These include measures such as structured

interviews, self-report questionnaires and performance based measures (Meyer et al., 2001).

## **1.6 Empirical Studies**

As stated earlier, there has been growing evidence that throws more light on the benefits of the application of mindfulness based interventions to treat a wide range of mental disorders. Also the way that the Buddhist practice of meditation determines how aspects of emotions are processed by the brain, has been backed up with scientific evidence (Davidson et al., 2003). Most research has dwelt on the evaluation of the efficacy of mindfulness based interventions such as MBSR and MBCT, over the last two decades (Kabat-Zinn, 1990; Chiesa and Seretti, 2010). Some studies have looked at various ways mindfulness can be applied in clinical settings, taking into consideration whether they have improved clinical functioning, helped in the reduction of stress or whether they have alleviated symptoms directly (Chiesa and Seretti, 2010). The effectiveness of mindfulness interventions for mental health issues has, however, been only delineated by few well designed studies, presently (Melbourne Academic Mindfulness Interest Group, 2006; Chiesa and Serretti, 2009; Grossman et al., 2004; Chiesa and Seretti, 2010). Indeed this is further illustrated in Grossman et al.'s (2004) comprehensive review and meta-analysis of published and unpublished work looking into the health benefits of mindfulness based stress reduction. In their review of 64 studies, only 20 studies met the essential criteria and reported sufficient statistical details for effective assessment.

## **1.7 Mindfulness in Schools Programme**

The incorporation of mindfulness based strategies in education is a need outlined by the vast amount of research available (Burnett, 2011; Bush, 2011; Huppert and Johnson, 2010; Hyland, 2011; Schoeberlein, 2009; Shapiro et al., 2011). MBSR has been adapted for both college and school settings, such as the .b Mindfulness in

Schools programme (Kuyken et al., 1995), the Mindfulness-Based Coping with University Life (MBCUL) (Lynch et al., 2011), and the Health Enhancement Programme for medical students in Monash University (Hassed, 2007; Hassed et al., 2009).

#### **1.7.1 Mindfulness in School Project (MiSP .b)**

The Mindfulness in School Project (MiSP) encapsulates the nine session .b mindfulness course for schools, written by three experienced classroom teachers and mindfulness practitioners, Burnett, Cullen and O'Neil (2011). The .b programme is painstakingly designed to engage everyone, including the most cynical of student audiences. The .b curriculum is a set of nine lessons with each lesson delivering a distinct mindfulness skill, and designed to do so in a way which engages young minds. It includes a brief presentation by the teacher aided with lively pupil-friendly visuals, film, sound images, practical exercises and demonstrations to make the ideas clearer and of relevance to their lives. Such as, learning to sit still and observe the breath, being aware of the different parts of the body, walking mindfully or becoming more aware of how the body feels under stress. Lessons very often end with an invitation to students to practice briefly at home. The whole course is supported by a student handbook.

The main aim of .b is to raise the awareness of students to the exercise of mindfulness and its benefits. It gives the students a taste of mindfulness so that they know about it and can return to it later in life if they choose to do so. However, for many pupils the course can lead to immediate and striking results: they feel happier, calmer and more fulfilled; they can concentrate better; they have a toolkit to deal with stress and anxiety. The .b intends to help the young people who experience it to overcome difficulties, thrive and flourish. The .b programme aims to help young people to experience greater well-being (feel happier, calmer, more fulfilled) and to fulfill their potential and pursue their own goals. These include, being more creative, more relaxed, with greater academic and personal improvement. The programme further aims to improve

concentration and focus of young people in classes, in exams or tests, on the sports field when playing games, when paying attention and listening to others. It also aims at working with students in difficult mental states such as depression, students with ruminative and anxious thoughts, and to help them cope with the everyday stresses and strains of adolescent life such as exams, relationships, sleep problems, family issues.

Kabat-Zinn attended the Mindfulness in Schools conference held in London on the 27<sup>th</sup> March 2013. He shared his generous, valuable knowledgeable contribution of his time as he had shared his inspiring vision for mindfulness in education. During this conference, students' and teachers' experiences with the .b programmes were discussed (Mindfulness in Schools, 2014).

(Hennelly, 2011) investigated the immediate and sustained effects of the .b mindfulness programme on adolescents' social and emotional well-being and academic functioning. In this controlled mixed-methods longitudinal study, sixty eight male and female adolescent students from archetypal mixed-gender secondary schools within Oxfordshire participated in the .b mindfulness training programme (Burnett et al., 2011). Participants from three schools were recruited, with their written permission to conduct the study. Using quantitative measures, the immediate effects of the .b programme's mindfulness, ego-resilience and well-being were compared to that of existing research exploring further the effects of gender and age group. Knowing the already established sustained effects in MBSR patients, students were retested at six months to find out if sustained effects could also be established for adolescents. Interviews for qualitative measures were used to ascertain students' individual experiences of the effect of mindfulness on their day to day living, manifestations of which were apparent to their peers, teachers and parents. The mindfulness ".b", programme was taught to each class by the same mindfulness teacher.

Quantitative measures were used and Mindfulness was assessed using the Cognitive and Affective Mindfulness Scale-Revised (Feldman et al., 2007) which measures ability to regulate attention, awareness, and acceptance of experience. Resilience was measured using the Ego-Resilience Scale (Block and Kremen, 1996) which assesses capacity to respond appropriately or to situational contexts and demands. Well-being was assessed using the Warwick-Edinburgh Mental Well-being Scale (Tennant et al., 2007) which measures affective-emotional, cognitive-evaluative, and psychological aspects of well-being. In this controlled mixed-methods longitudinal study, students completed pre-course, post course and six-month questionnaires in the assessment of the immediate and sustained changes in the quantitative measures. Students who completed all three questionnaires were included in the statistical analysis.

Overall, with controls showing a decline, there were significant improvements in immediate and sustained mindfulness and ego-resilience while immediate well-being of participants was maintained. Mindfulness training had significant effects on immediate resilience, well-being, sustained mindfulness and resilience. Males' resilience tended to decline whereas females' remained steady. Males' well-being was less stable than that of females. There was a mixed pattern of relative increases and decreases within participant and control groups on mindfulness, resilience and well-being scores, but an overall pattern of increases in participants' scores when compared to those of controls.

In summary, the .b intervention was associated with positive outcomes and significant improvements in mindfulness and ego-resilience, and greater stability of well-being for adolescents in typical mixed-gender secondary schools. The study demonstrated that, as with other Mindfulness Based Interventions (MBI), .b is associated with immediate improvements in adolescents' well-being, and functioning. Furthermore these positive effects continue to develop post-course. It helps to explain the basis of the .b's diverse effects and identifies the cognitive shifts which lead to wilful deep seated behavioural changes in class. This is of importance in the educational context considering its

effects on “teachability.” This study therefore established that the .b programme is viable and effective amongst mixed gender secondary schools across different year groups, and has the potential to benefit adolescents in ways which reflect their diverse pre-existing strengths and challenges. The main critique of this study was the researcher’s positive bias towards mindfulness. However, it is acknowledged that she did try to maintain impartiality.

There is another study delving into the use of mindfulness training in schools (Huppert and Johnson, 2010). This study is aimed at enhancing the understanding of the effect of the modified MBSR course on adolescents. It therefore involved the use of a short programme of a modified MBSR course. It was a controlled trial in a school setting made up of both intervention and control groups of 14-15 year old boys (N=155), from two independent fee paying schools. It entailed four 40 minute classes, one per week. The Intervention group further had a CD of three 8 minute audio files of mindfulness exercises for use outside the classroom as daily practice. The Control group attended their normal classes as usual during the 4 weeks. Qualitative and quantitative measured variables of pre and post interventions were made to compare the changes in the two groups and the outcome measures examined were mindfulness, resilience and psychological well-being. Adult scales of measure were employed as scales validated for use by adolescents were not found. Extra outcome measures assessing how much individual practice students undertook outside the lessons as well as their feedback regarding evaluations of the training programme and its effects on them were taken.

The overall differences between the two groups of Intervention and Control did not show significance. However, in the trained group, there was a significant positive association between improvement in psychological well-being and mindfulness, and the amount of individual practice outside the classroom. The finding has previously

been reported in adult studies that positive benefits are linked with a greater amount of practice (Carmody and Baer, 2008; Carson et al., 2004). Also discovered from this study was the link of personality variables such as agreeableness and emotional stability to improvement in well-being. As most students from this study reported enjoying and benefitting from the intervention, it was encouraging that 74% of students in the training group expressed interest in continuing with it in the future.

The large sample size, the control group and the use of quantitative measures are some of the strengths of this study. It could however be strengthened further with a refined training programme and a definitive randomised controlled trial that employed both subjective and objective outcome measures with long term follow-up, such as objective measures of improvement, performance on tests of attention and emotion regulation, or data on academic achievement. The study was limited in its gender restriction, lack of random allocation of students to the two groups that increases the likelihood of inherent bias, the use of subjective measures only and the use of a short personality inventory. It is anticipated that mindfulness practices will be more readily accepted by girls, as they are by women (Samuelson et al., 2007). In conclusion, this preliminary study revealed significant findings relating the degree of mindfulness practice to psychological well-being and mindfulness of pupils. Feedback from the pupils and teachers involved in this study plus further consultation with researchers, taking into account the particular capabilities and needs of adolescents, has led to the design of a new curriculum (Burnett, 2009)

The effectiveness of the MiSP was investigated in a non-randomised controlled feasibility study (Kuyken et al., 2013). Its target sample was made up of 522 consenting young people aged 12-16 years and their teachers, in schools where the MiSP was taught as a 9 week programme, aiming to assess both the acceptability and efficacy of the programme to enhance well-being and mental health. With outcome assessments at baseline (pre-intervention), post-intervention and a 3 months after baseline follow-up, the study involved a controlled parallel group who took part in the usual school

curriculum and the intervention group undertaking the MiSP ( MiSP v matched control group). The teachers involved in the study were either the MiSP curriculum programme developers or were trained and approved as primed to teach mindfulness, by the developers. They therefore could deliver the curriculum with a greater degree of understanding and fidelity.

Completed feedback evaluation questionnaires from the participating students immediately after the end of the intervention were used to assess the acceptability of the programme. A further evaluation questionnaire to establish the extent of mindfulness practice and usage among the students was completed after 2-3 months of the end of the MiSP. Teachers of the MiSP also rated their perceptions of the level of student engagement and interest, two months after the course, on a ten-point Likert scale.

Four outcome measures were obtained. Well-being was assessed with the use of the Warwick Edinburgh Mental Well-being Scale (WEMWBS) (Stewart-Brown et al., 2009; 2011; Tennant et al., 2007) while mental health was assessed with two measures of stress and depression using standard scales. These were the ten-item version of the Perceived Stress Scale (PSS)(Cohen, 1986; Hewitt et al., 1992; Pbert et al., 1992) assessing stress perception in the last month, and the Centre for Epidemiologic Studies Depression Scale (CES-D), (Coyle and Roberge, 1992) assessing the presence and degree of depressive symptoms in the last week. For only the participants of the intervention group, the level of sustained mindfulness practice 3 months after the completion of the MiSP was assessed.

The results of this study give emphatic evidence of its acceptability and impact on depressive symptoms. There was promising evidence on how efficacious the programme was in reducing stress and enhancing well-being. Low-grade depressive symptoms were done away with both immediately and at three months follow-up. The results, although comparable with other mindfulness based interventions for young



people where depressive symptoms were reduced post-intervention, has the added bonus of being the only study of its kind that addresses a risk factor for depression. It therefore supports the suggestion that prevention of depression in adolescence is possible (Cuijpers et al., 2008). The inability to randomise the schools so selected was one of the several limitations of this study, resulting in inevitable baseline imbalances being observed. Other limitations included the small set of self-report measures which can be offset with broader measures such as schools or classroom-based measures, observer measures, bio-behavioural measures of stress reactivity and/or resilience. New onsets of depression as a mental health outcome can help establish the numbers needed to treat and their cost-effectiveness. This study has provided primary evidence of its acceptability and efficacy and is thus the initial portal in the evaluation of the MiSP curriculum.

### **1.7.2 Mindfulness with Young People in Higher Education**

The application of Mindfulness based intervention on young people in higher education may benefit students both academically and in the reduction of the inherent stresses of tertiary education. The Mindfulness based coping with University Life (MBCUL) was developed to help students reduce their stresses and to promote coping with university life. The MBCUL follows the MBSR and MBCT 8 week format and it informs students with an initial theoretical understanding of mindfulness meditation incorporating a practical element each week (Lynch et al., 2011). Likewise the development of the Health Enhancement Programme for medical students also assisted students overcome mild to moderate stress and anxieties (Hassed, 2007).

The research findings of Lynch et al. (2011) suggest an improved approach by students to reading and their comprehension of such readings. Its qualitative data suggest an improvement in focussed attention to readings and listening. Significant changes were observed for the MBCUL group in terms of perceived stress, anxiety, depression and personally relevant change, along with an increase in mindfulness.

Another study which found that students who took part in a seven week programme, showed significant improvements in mental distress, study stress and subjective well-being, is that of de Vibe et al. (2013). This was reduced to six weeks of one and a half hour sessions each after consultation with the students prior to the commencement of the intervention. It was modelled on the MBSR but with a 6 hour session in the seventh week. Two hundred and twenty eight medical and psychology students (mean age=23 years, 76% female) from the University of Oslo and the University of Tromso were randomly allocated to an intervention or control group. Previous studies have also reported similar improvements as a result of MBSR interventions (Rosenzweig et al., 2003; Shapiro et al., 2007). However, this study is the first randomised controlled trial to highlight that mindfulness intervention can reduce mental distress, study stress and increase subjective well-being in medical and psychology students. It is also the first study of its kind to show that the MBSR intervention for students may work within a non USA cultural setting.

Wu et al. (2013), aiming to find an effective and simple mindfulness intervention for students with severe and moderate depression, introduced informal and formal mindfulness trainings. The informal training differed from the formal trainings by placing emphasis on practice in daily life mode, excluding long time mindfulness body scan. Ninety five students with moderate or severe depression took part in this study. Participants were split into three mindfulness groups which were 8-week formal group, 8-week informal group, and a 4-week formal group. Before the intervention all participants completed the Beck Depression Inventory 11(BDI-11) (Beck et al., 1996), and Five Facet Mindfulness Questionnaire (FFMQ) (Baer et al., 2006). Post intervention, 55 participants completed the assessment once more. Thirty three participants were female and twenty two were male subjects with an average age of 21.9 (SD=2.23). The results showed that the informal Mindfulness programme gave the best effects in comparison with the formal training. Further study is required to shed more light on the effects of the two training modes.

The samples mentioned above are educated young people not out of employment, but sharing only a similar age range to those of this current study. There is a considerable variation in delivering methods and protocols for students in higher education.

The motivation and compliance of young people in schools to engage in mindfulness interventions exceeds that of young people not in schools, the latter being most likely from disadvantaged communities. Below are highlighted some of the difficulties young people from these communities encounter.

### **1.7.3 Difficulties of Young People from Disadvantaged Communities**

Common behaviours among young people include welfare dependency, anti-social behaviour, criminal and indolent behaviour. They have been labelled as 'hard to reach' in research and policy (Merton, 1998) with the excessive labelling of being 'disaffected', 'disengaged', 'disconnected', 'the socially excluded', 'the youth underclass' and of late, 'NEET' which is the abbreviation for not in employment, nor in education and training, by policy and academic discourse in the UK. These powerful assumptions tend to overburden youth representations (Ball et al., 2013).

Parents and young people living in deprived areas are most likely to have lower educational expectations and those parents with lower income are also likely to envisage lower educational expectations for their children. Family background strongly influences the educational aspiration of young people from socially disadvantaged backgrounds where the environment and community plays an essential role. Due to the limited range of social networks in these areas, relationships with local people become a fundamental influential factor. The characteristics of the neighbourhood such as housing, the local environment, crime rates and the quality of services, are also likely to influence the attitudes and outcomes of such young people, though these effects are hard to measure (Cuthbert and Hatch, 2008).

Theories about how neighbourhood characteristics affect young people from these deprived areas include collective socialisation and the environmental/external influence. Young people's expectations, sense of self efficacy, self-esteem, confidence and motivation are affected by their circumstances. It is therefore to be expected that young people in this pilot study could be experiencing similar difficulties (Lupton and Kintrea, 2008), as such measures used should be able to capture these variables of self-esteem, stress and mindfulness.

The present study was conducted in the Fight4Change Gym in Lambeth which is a registered charity employing the sport of boxing to help young people from socially excluded communities overcome their difficulties. The charity has assembled a skilled staff team working from two centres in London and the West Midlands. They do not only deliver the projects but also work with partners to promote and develop the sport of boxing as a tool for positive social change. They engage young people in positive activities at key times using the coach and participant relationship in the provision of positive role models and motivation. Personal and social development projects with boxing as a pathway are delivered together with education and training programmes serving as pathways into coaching and mainstream education (Fight4Change, 2009).

### **Leisure and free-time needs of young people from disadvantaged and socially excluded communities**

The study by Byrne (2006) on the free-time and leisure needs of young people aged 12-18 years living in disadvantaged areas, was funded by Combat Poverty Agency under the Poverty Research Initiative. It explored the physical and social aspect of the environment that characterised the neighbourhoods where young people live. It further investigated how young people spent their free time looking at factors that inhibited young people's choice in this regard. The study provided recommendations vital to policy makers that contributed to the development and provision of leisure and free time activities, appropriate for young people living in deprived areas. Four geographical

areas were chosen for this study namely, an inner-city Dublin area, a suburban housing estate outside Dublin, a neighbourhood within a large rural town and a small rural town community. These areas were identified as having a high concentration of socio-economic disadvantaged families. They were characterised by also having a high percentage of low-income families, high levels of unemployment and an educational disadvantage amongst the generations of these families. The areas were also known to have high levels of anti-social behaviour, sale and use of hard drugs and vandalism among the young people.

The researcher used a number of recruitment sites in each area; these were local youth clubs/groups, second level schools, Training and Employment Authority commonly known as the FÁS Community Training Workshops or Youth reach and the police force in Ireland (Garda) Diversion Programmes. Participants in this sample included forty-two young women and thirty-eight young men. Forty-five of the young people were aged 12-15 years and thirty-five were aged 16-18 years.

A qualitative multi-method approach research methodology was used and a mixture of individual interviews and focus group discussions were conducted. Participants' baseline data were also gathered using a pre-coded questionnaire, administered subsequent to individual interviews and focus group discussions. Issues such as age, gender and neighbourhoods/geography emerged. Firstly, young people expressed their strong feeling of attachment to their social local community but expressed feelings of negative characteristics of their social environments. They got engulfed in selling illicit drugs, antisocial and criminal behaviour. These young people reported that they felt ignored by the community and residents' group. Those young people coming from the urban and suburban areas reported that they had problems with local police. Secondly, young people stated that they did engage in leisure activities in their neighbourhoods by means of attendance of youth groups and sports clubs. The preferred free time and leisure activity of participants in this study was however 'hanging out' on the street with friends.

A number of factors that inhibit free-time and leisure choices for young people were identified. The general consensus amongst young people was that there was a lack of free-time and leisure amenities available to them in their neighbourhoods. Most of the young people were dependant on their parents for personal allowance and thus they were not in a position to enrol for membership in leisure clubs. A lot of private leisure clubs had sprung up in each of the four areas but in many instances young people reported that they were barred or excluded from using these leisure centres. Policy-oriented recommendations emanating from this study hinged mainly on four key areas, namely, social environment, community run activities mainstream, 'at risk ' youth clubs and unstructured activities.

#### **1.7.4 Mindfulness with Adolescents**

Studies have illustrated that there may be a case for mindfulness based interventions for the treatment of a range of mental and physical health disorders, the majority of which have focused on adult populations with very little research carried out about the efficacy of this type of intervention for the treatment of child and adolescent populations (Semple et al., 2005; Thompson and Gauntlett-Gilbert, 2008). The substantial rise in the prevalence of adolescent psychiatric disorders and reported cases of less than desirable results from already established approaches, suggest that there may be room for new types of interventions to augment the treatment of adolescents (Biegel et al., 2009; Collishaw et al., 2004; Emslie et al., 2003).

There have been some preliminary studies carried out that have suggested that there may be a place for mindfulness in the treatment of adolescent conditions. (Bootzin and Stevens, 2005) conducted a study incorporating mindfulness as a means of improving sleep and lowering risk for recidivism of substance abuse amongst 13-19 year olds. The study implemented a six-session group treatment to treat sleep disturbances combining components of MBSR and insomnia treatment<sup>2</sup>. Their preliminary evidence

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<sup>2</sup> Some of the treatments involved stimulus control instructions, the use of bright light to regularize sleep, sleep hygiene education and cognitive therapy.

indicated that participants who completed four or more sessions in the treatment programme showed improved sleep and mental health distress which may lead to a reduction in substance abuse problems at 12-month follow-up.

A study by Wall (2005) used a combination of Tai-Chi (TC) and MBSR as an educational 5 week programme for middle school aged boys and girls in Boston. The combined TC and MBSR programme managed to sustain the interest of middle school aged children and the subjective statements of the participants indicated that as a result of the programme, 'they experienced well-being, calmness, relaxation, improved sleep, less reactivity, increased self-care, self-awareness and a sense of interconnection or interdependence with nature'. Their research indicated that TC and MBSR can be a transformational tool that can be used in educational programmes for middle school-aged children and should be recommended for health promotion even while they are still being studied further. Although these studies suggest a case for mindfulness based interventions for the treatment of psychological symptoms amongst adolescents, they, as stated earlier, are preliminary and vary in their content of mindfulness intervention. They also suffer from a number of methodological problems, including small sample sizes, purely self-reported outcomes, and a lack of randomized control groups.

Biegel et al. (2009) conducted the first randomized clinical trial that was designed to assess how effective the MBSR programme for adolescents between the ages of 14-18 with heterogeneous diagnoses in an outpatient psychiatric facility was. The findings revealed that those receiving MBSR self-reported reduced symptoms of anxiety, depression, and somatic distress, and increased self-esteem and sleep quality. This study also revealed that the group receiving MBSR treatment showed a higher percentage of diagnostic improvement over the study period, suggesting that MBSR may be a beneficial adjunct to outpatient mental health treatment for adolescents. However, this study like all others had some limitations. For instance longer follow-up assessments, inclusion of more specific analysis of the effects of the mindfulness

component, but outside of group and psycho-education effects could have further strengthened the study. The sample was also largely female in its composition so by using samples with balanced gender compositions more reliable results might have been obtained.

Overall, despite there being no conclusive evidence of the efficacy of these interventions in adolescent populations, the current studies provide support for its feasibility, offering a potential powerful set of interventions for clinicians working with adolescents (Thompson and Gauntlett-Gilbert, 2008). Indeed in a review of studies within this field, Burke (2009) suggests that sturdy methodologies in larger well designed studies are needed to enable the advancement of mindfulness as a field of study. These studies should adopt a standardized format for intervention which would allow other studies to replicate and compare. By doing so, they would be able to develop a firm research evidence base. Thompson and colleagues also recommend specific clinical modifications for mindfulness when dealing with children and adolescents. For example, groups of adolescents may require more explanation and rationale in order to engage fully. In addition, using other techniques such as useful metaphors, introducing a balance of sufficient variety and repeating practices to engage participants and allow skills to develop, reducing the length of practice, parent involvement and effective group size can all contribute to a better design of mindfulness for adolescent populations.

## **Clinical Studies by Condition**

### **1.7.5 Major Depression**

Teasdale et al. (2000) in an attempt to teach recurrently depressed patients in remission, from engaging in contemplations that are dysphoric and depressogenic at triggering and mediating relapse or recurrence, conducted a study to evaluate the usefulness of MBCT. In this study, rather than designing the MBCT as psychotherapy for a sole individual, a group skilled training approach was adopted. This was



administered after a minimum of 3 months post withdrawal of anti-depressant medication. The study made use of the Hamilton Rating Scale for Depression (HRSD) (Hamilton, 1960) and made use also of a randomised sample of 120 outpatient participants currently in remission or recovery from major depressive disorder. Randomisation led to either participants continuing treatment as usual (TAU) or, in addition, receiving MBCT intervention over a 60 week period. This period began with an 8-week treatment session after which was the 52 week follow up phase<sup>3</sup>. Results showed that in patients with more than two or more previous episodes of recurrent major depression (77% of sample), the use of MBCT reduced the rate of relapse and recurrence by almost 50% compared to those on TAU. There are however, some limitations to this study since the evaluation of the benefits of MBCT as against therapeutic attention and group participation, referred to as non specific factors, is not permitted by the design of the study. In spite of this limitation, the findings of substantial therapeutic potential of the mindfulness based interventions, either on its own or as an adjunct to another intervention is indicated in this study.

Coelho et al. (2007) were one of the first to assess the benefits of MBCT in the treatment of recurring major depression. Based on the available evidence, patients with more than two occurrences of depressive episodes gain additional benefits from MBCT, was concluded in their review.

Kuyken et al. (1995) investigated the comparable benefits in the use of mindfulness based cognitive therapy, in patients on antidepressant medication (ADM) with recurring depression as opposed to those on standard treatment with maintenance ADM (m-ADM) <sup>4</sup>. Three key aspects were their areas of comparison, namely (a) prevention of depressive relapse (b) key secondary outcomes and (c) cost effectiveness. The study design was a parallel 2-group randomized controlled trial comparing those on m-ADM

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<sup>3</sup> The Beck Depression Inventory was completed by every patient at the baseline assessment and at each follow-up session.

<sup>4</sup> Participants selected for the trial all had a history of three or more previous episodes of depression, had been treated with a therapeutic dose of ADM over the last 6 months, and were currently either in full or partial remission from the most recent episode.

(N=62) with those receiving an 8-week MBCT programme that included support to taper/discontinue m-ADM (N= 61). The time from randomization to a relapse or recurrence of depression was the primary outcome measure. Patients were followed up at a 3 monthly interval for 15 months. The severity and duration of the relapses or recurrences, the severity of residual depressive symptoms, the number of comorbid psychiatric diagnoses, life quality and the use of services were all grouped as the secondary outcome measures. Relapse/recurrence rates over the 15 month follow-ups in MBCT were 47%, compared with 60% in the m-ADM group. The effectiveness of MBCT over m-ADM in reducing the secondary outcome measures was shown in this study. There was a significant reduction in the rates of ADM usage in the MBCT group and 46 patients (75%) discontinued their ADM completely. Thus according to this research, MBCT may be an alternative way of dealing with the prevention of relapses in depressive patients.

This is further illustrated in a systematic review of mindfulness based cognitive therapy for psychiatric disorders by Chiesa and Seretti (2010). In their review of 16 studies, the findings suggested that 1) MBCT in adjunct to usual care was significantly better than usual care alone for reducing major depression (MD) relapses in patients with 3 or more prior depressive episodes, 2) MBCT plus gradual discontinuation of maintenance antidepressants was associated to similar relapse rates at 1 year as compared with continuation of maintenance antidepressants, 3) the augmentation of MBCT could be useful for reducing residual depressive symptoms in patients with MD and for reducing anxiety symptoms in patients with bipolar disorder in remission and in patients with some anxiety disorders.

#### **1.7.6 Bipolar Disorder**

The study by Williams and colleagues (2008) sought to investigate the feasibility and potential beneficial outcomes of MBCT mainly in patients with a bipolar disorder and a history of suicidal behaviour or ideation. It focussed on patients in between episodes of depressive symptoms and anxiety. It used data from a pilot randomised trial of MBCT

for individuals with bipolar disorder in remission, comparing the immediate effect of MBCT versus those on the waiting list on grounds of anxiety and depression between unipolar and bipolar disorder participants<sup>5</sup>. The MBCT programme was delivered by two experienced therapists and classes included 12-15 participants (Beck et al., 1990). Using the Beck Anxiety Inventory (BAI) and the Beck Depression Inventory (BDI-II) (Beck et al., 1996), the study demonstrated that suicidal bipolar and unipolar patients both showed reductions in depressive symptoms following the treatment with MBCT in comparison with the waitlist. The results also suggested that the MBCT was effective in limiting the increased anxiety amongst the bipolar group (Beck et al., 1996). There were some limitations to this study. A small sample size was used and the study recruited participants with suicidal ideation and behaviour, so the findings cannot be generalised to individuals without these symptoms. The study also neglected to take into account other treatment effects which may have contributed to the reduction of the anxiety and depression amongst the participants. However, the researchers maintain that their initial results are sufficient to suggest that further investigation of MBCT for bipolar disorder is warranted, and that MBCT may be a trans-diagnostic tool, suitable for bipolar disorder as well as other psychiatric conditions (Williams et al., 2008)

### **1.7.7 Schizophrenia**

There are fewer studies on the efficacy of mindfulness with people with psychosis (Baer, 2003), and indeed most literature on the subject has warned against teaching mindfulness to individuals who are vulnerable (Yorston, 2001) or those suffering from active symptoms of psychosis (Deatherage, 1975). However, (Chadwick et al., 2005) demonstrated that mindfulness based cognitive therapy approaches are applicable for those with subjective and distressing psychoses, although modifications are necessary

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<sup>5</sup> The inclusion criteria demanded that each participant should have had at least one prior episode of major depression accompanied by serious suicidal ideation. In addition, all participants were required to meet the National Institute of Mental Health (NIMH) criteria for recovery at the time of participation. The sample group was made up of n=68 participants between the ages of 18-65 recruited from general practitioners, local psychologists/psychiatrists and from the community that met the inclusion criteria

(Abba et al., 2008; Davis et al., 2007). The investigation by Chadwick et al. (2005) was conducted in conjunction with standard psychiatric care with the aim of helping individuals by establishing a mindful relationship with unpleasant voices, images and paranoid thoughts<sup>6</sup>. Their programme made six adaptations to the standard MBSR and MBCT approaches in order to mitigate the possible harmful effects of mindfulness meditation amongst people with psychosis.<sup>7</sup> Their study was significant as it further demonstrated how a mindfulness programme can be tailored to cater for different circumstances.

Moreover, ten participants fully completed the programme and a Clinical Outcome for Routine Evaluation (CORE) was chosen as the primary outcome measure for the study along with a mindfulness questionnaire.<sup>8</sup> The result of the CORE data revealed that those individuals that participated in the mindfulness group alongside standard psychiatric care had an improvement in general clinical functioning in 10 individuals suffering with severe and enduring psychoses. Their results suggest that the direction of change in CORE scores were positive for 9 out of 10 participants completing the measures and there was an increase of 42% in mindfulness overall, following the programme.

It was also noted that 6 out of 11 participants in Chadwick's study chose to attend the second group indicating that they did not find the experiment harmful (Chadwick et al., 2008). This further suggests that the mindfulness programme developed by Chadwick and colleagues, with its adaptations could be useful in the treatment of patients with

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<sup>6</sup> Participants in this study were referred to an inpatient psychology service for people with distressing psychoses and were made up of mixed gender groups with two years unremitting distressing psychological experiences.

<sup>7</sup> Firstly, Chadwick and his colleagues only taught and focused on one aspect of mindfulness practice namely mindfulness of breath, which was taught in two shorter than normal 10minute sittings. Secondly, all mindfulness practice sessions were guided with therapists facilitating the group sessions offering gentle and brief prompts every two minutes throughout to help participants to refocus awareness and avoid lengthy silences so that they might not become lost in reacting to psychoses. Thirdly, although it was not required participants were encouraged to undertake homework. Further 10 minute sittings were suggested with the use of audio tapes for guidance. Fourthly, the programme was shortened to six weeks as opposed to the usual 8 week MBSR/MBCT programme and consisted of 90 minute sessions which included a 15 minute break. The fifth adaptation involved the amount of emphasis that was placed on the programme. Although the overall arching aim of the programme was to teach mindfulness it was essential that an emphasis was placed on the therapeutic process and relationship as well as the structure of the group. Lastly in order to manage the programme effectively the groups began with up to 6 participants only.

<sup>8</sup> Southampton Mindfulness Questionnaire.

psychoses. This is further illustrated in another study (Jacobsen et al., 2010) assessing the feasibility of running and evaluating a mindfulness group on an inpatient ward for individuals with chronic and treatment resistant psychoses. Using the protocols of Chadwick et al. (2008)<sup>9</sup>, the findings of this study revealed that the participants could tolerate the short sitting meditation, reflect on these experiences and also relate to them in their everyday life. This is a significant finding that links back to the original application of mindfulness in improving outcomes for clinical populations who have not responded to conventional treatment. York (2007) conducted a mindfulness group study on an acute inpatient unit which also included some participants with psychoses, reporting subjective benefits such as the feeling of calmness and peace of mind as well as the ability to accept and tolerate difficult thoughts and feelings.

A study by Abba et al. (2008) also attempted to address the topic of participant experience of mindfulness, through investigating the psychological process involved when people with current distressing psychoses learned to respond mindfully to unpleasant psychotic sensations. The study opened up interesting questions as to the processes of change involved in mindfulness for psychoses. A grounded theory methodology was used with 16 individuals with psychoses, who had already taken part in an outpatient mindfulness group. The findings indicated that mindfulness helps people to relate differently to the psychotic experience and people with or without psychosis essentially learn mindfulness through a similar process. The researchers suggest that this occurs in three stages, 1) by opening awareness to the experience, 2) allowing the experience to be as it is (allowing thoughts and voices to come and go without reacting), and 3) reclaiming power through accepting oneself and the experience. Mindfulness it seems, does not “cure” the psychosis as it still remains, but it instead helps the patient in learning to respond differently to the ongoing psychotic sensations. This is a key element in preventing cases of relapse with people with

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<sup>9</sup> Chadwick's protocol of short breathing meditations for instance was used

psychosis (Bach and Hayes, 2002). However, the studies above share some limitations with the most notable one being the size of the samples. Larger samples will be required in order to highlight any clinically significant change as a result of conducting mindfulness groups.

The Body in Mind Training programme has been introduced by Dr Tamara Russell for patients suffering from severe and enduring mental illness such as schizophrenia. The aim of this programme is to provide training in body and movement awareness that allows mindfulness to emerge at a slower rate and in a more controlled way, thus allowing the introduction of anchoring with body movements. The rationale behind this approach is that for some patients with severe mental illness particularly for those individuals whose minds are busy, overwhelming or threatening, even sitting for a three minute breathing space, or just watching what arises in the mind may be very overwhelming. It is thought that by using movement, the mind has something to anchor onto and it is from this position of relative safety that the individual can watch other thoughts and sensations fall away. Participants of this programme (staff and patients) undertook a six point visual scale assessment of their stress levels. It was noted that there was a similar reduction in stress levels in both the groups of participants ranging from 25-33% with a number of participants reporting that the exercise was beneficial particularly noting that they liked the application of the actions and movement in the mindfulness programme (Russell, 2011).

The study by Davis et al. (2007) is one of the first studies that adapted Mindfulness intervention to help individuals with Schizophrenia who experience significant anxiety symptoms<sup>10</sup>. The intervention was based on the MBSR programme and several modifications were made although the dyadic material of both MBSR and MBCT.<sup>11</sup> was adapted.

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<sup>10</sup> Davies' study consisted of 5 male outpatient participants with an average of 6, also psychiatric hospitalised and a mean age of 51.

<sup>11</sup> Firstly, although the programme incorporated the basic ingredients of MBSR a focus on self-compassion was emphasised from week one of the programme all the way to week 8. Secondly, in recognition of the neurocognitive

The findings in the study suggest that Mindfulness may indeed help individuals with schizophrenia experience less subjective distress. Both participants and their clinicians confirmed that there was no evidence of increased hallucinations or delusions during mindfulness practice. Feedback from the participants indicated that meditations incorporating self-compassion were most helpful. Davis and colleagues suggest that the development of the self-compassion aspect of mindfulness may soften the self-critical inner dialogue and enhance acceptance which may in turn increase the ability to hold distressing thoughts and emotions in non-judging awareness. Future research of Mindfulness interventions may benefit from emphasising self-compassion as a programme element and exploring its contribution to outcome.

### **1.8 The Present Study**

The present pilot study aimed to assess Feasibility of Mindfulness Training for young people coming from disadvantaged and socially excluded communities. The hypothesis of the study was that after completion of the BMT by young people, they will show: (a) improved self-esteem as measured by the Rosenberg Scale for self-esteem (Rosenberg, 1965), b) reduced perceived stress as measured by the Perceived Stress Scale (Cohen et al., 1983), and (c) more mindfulness as measured by the Mindfulness Attention Awareness Scale for Adolescent (MAAS-A) (Brown et al., 2011; de Bruin et al., 2011).

### **1.9 Summary and Future Directions**

This chapter aimed to explore the practice of mindfulness and its application as a tool used in school projects for young people and also as a clinical intervention. Mindfulness as a practice stemming from ancient Buddhist practices has grown

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impairments typical in schizophrenia, the study adapted simplified and concrete language enhanced by metaphor and examples to deliver didactic content. They also allowed some silence between sentences for participants to process what they had just heard. The day long silent retreat that is a component of MBSR/MBCT was not included in the programme. Chadwick et al.'s (2005) method of curtailing silences within Meditation to 1-2 minutes to reduce the possibility of harming and aggravating the psychotic symptoms of patients during the process was also adopted. Group size was also limited to 5 participants. Davies et al. (2007) also minimised the amount of homework and handouts and reduced the suggested daily practice from 45 minutes to 30 minutes. However informal practice in daily life homework assignments was encouraged, i.e. such as eating mindfully.

exponentially in western medicine since the ground breaking work of Kabat-Zinn. However, as the definition of mindfulness in robust terms remains a difficulty, especially for scientific methodological assessments, it is described as a subtly almost elusive construct. This is further illustrated by various ways in which mindfulness based interventions are adapted and applied in both school and different clinical settings. Nonetheless, there have been many attempts to address this as it is important in providing understanding of how mindfulness-based treatments work. It seems to be an ongoing process. Through the extensive use of experiential methods a large number of recent studies however have demonstrated to varying degrees that there is a case supporting the efficacy of mindfulness based interventions as a clinical tool for psychological as well as physical conditions and also as a tool used in school projects. These studies suggest that mindfulness can be useful in school programmes and improve wellbeing of students and in the clinical settings by improving clinical functioning, helping in the reduction of stress or alleviating symptoms directly.



## **Chapter Two**

### **Mindfulness Practice in Young People**

#### **2.1 Adaptation of Mindfulness Practice for Children**

Adaptation refers to changes or adjustments made to the mindfulness practice delivered to adults in order to make them more acceptable for young people and children. Specific clinical modifications have been recommended for mindfulness with children and adolescents (Thompson and Gauntlett-Gilbert, 2008). The developmental appropriateness of teaching mindfulness has to be considered when adapting mindful practices for children (Ott, 2002; Schoeberlein and Koffler, 2005).

Areas of differences between adults and youth include attentional, cognitive and interpersonal functioning (Semple et al., 2006). Adult practice is structured along three main pillars, namely, mindfulness of breath, body scan and walking mindfulness; and although this adult structure can be applicable to a younger population, it is useful to take into consideration the modifications to these practices to help adolescents engage more and appreciate the relevance of mindfulness.

One aspect that needs to be considered is the motivational and intentional stance of the young person coming into the training. The rationale and relevance of the practice may need to be explained in a different way compared to adults. For example, drawing on instances in a child's life when their "automatic pilot" may mean they are unaware of their actions until after the fact. Such automatic-pilot situations may include, finishing a meal, getting involved in a fight or argument without realising what really was the cause of the altercation. Sometimes the mindfulness practices are pitched in a way to help young people deal with the stresses and strains of development in life. Varying the different practices such as the use of sound, favourite genres of music are employed to engender recollections of private experiences and to respond to it in a mindful way (Thompson and Gauntlett-Gilbert, 2008)

Another example is the use of touch (Semple et al., 2006) with other varied practices having to take place outside the classroom or can still be applied to everyday activities of life such as a walking practice (Kabat-Zinn and Kabat-Zinn, 1997). Activities like eating (Hayes and Smith, 2005) getting dressed, brushing their teeth and making the bed (Semple et al., 2006) are all various ways of adapting mindfulness practices for young people. Mindful texting is where young people, on receiving text messages on their mobile phones, are encouraged to be mindful. Setting the alarms on their mobile phones can be used as a 10 minute mindful prompt (Thompson and Gauntlett-Gilbert, 2008) It must be noted however that mindfulness practice for young people is not dramatically different to that for adults (Hooker and Fodor, 2008).

The use of sports or martial arts or Tai Chi (Wall, 2005) in a number of programmes as the context of initiating mindful movements offers another way of engaging young people in mindfulness practice. One such programme is the Integra Mindfulness Martial Arts programme (MMA) which is a manualized group treatment programme incorporating elements of mindfulness meditation, cognitive behaviour therapy (CBT), behaviour modification and mixed martial arts. Haydicky et al. (2012). This is a 20 week programme and has been evaluated in 60 adolescent boys. Adolescents and their parents completed standardised questionnaires before and after training. Boys were aged 12-18 years old with learning disabilities (LD), co-occurring ADHD and anxiety. Results showed that, compared to the waiting list control group, boys with ADHD who took part in the MMA, improved on parent-rated externalizing behaviour, oppositional defiant problems and conduct problems. Boys with elevated hyperactive/impulsive symptoms, improved on parent-rated social problems and monitoring skills. Boys with elevated inattentive symptoms, improved on parent-rated social problems. Boys with elevated anxiety reported decreased anxiety.

Researchers have adopted other tools, often in a form of metaphors to help children focus during the practice. In children, the puppy metaphor (Kornfield, 2002) is one such example. Children are asked to imagine themselves teaching a puppy to sit still.

Although it may sit still for a while, it is most likely to get distracted and run off. When that happens, children agree the best course of action will be to notice where the puppy runs off, bring it back to where they want it to sit, without anger and judgment. Regardless of how many times the puppy repeats running off, children see the need to bring it back every time. This is akin to their expected response when their attention wanders off during mindfulness practices. (Greco et al., 2005) also suggested the use of a continuous stream of bubbles to metaphorically enhance the experience for children. Children are asked to think of bubbles and then to place their thoughts, feelings and emotions into the bubbles. Then they are asked to imagine these bubbles float away or burst.

Repetition of the same postures during practices provides opportunities to respond differently to similar private experiences during each session. However, it can also be boring and create problems for engagement in children. A balance is therefore required to ensure practices are of sufficient variety and repetitions. The greater the variety, the more sustained is the interest and engagement in young people.

In adults, mindfulness practices take varying times to complete (Roemer and Orsillo, 2003) usually between 20-45 minutes. Most research on children favours an adaptation for shorter practice times of 1-5 minutes (Wagner et al., 2006). What is uncertain is precisely how long these sessions should take in children for them to be effective. For a mindful state of concentration therefore, longer practices cannot be ruled out altogether since they may allow younger people to move and fidget (Thompson and Gauntlett-Gilbert, 2008).

It seems useful to involve parents and carers in the practice of mindfulness themselves and in teaching mindfulness to children and adolescents. This helps the parents and carers understand the practice through their own direct experience and may ease concerns about allowing their children to participate (Thompson and Gauntlett-Gilbert, 2008). Ultimately parental participation helps to reinforce mindful behaviour in their

children. Cultivating mindful parenting may be an invaluable aid to effective parenting. (Kabat-Zinn and Kabat-Zinn, 1997). Current evidence programmes developed for adolescents with ADHD, suggest that; concurrent training for both parents and their children is helpful (Bogel et al., 2008; Van Der Oord et al., 2011).

Mindfulness is often taught in groups although it can be taught individually. However, in children, to avoid the session being didactic, boring or irrelevant, adaptation of the group format can make the mindfulness teaching more potent (Thompson and Gauntlett-Gilbert, 2008). Post-practice discussions among the group, foster the sharing of individual experiences and comments (Semple et al., 2006). Camaraderie develops in the groups (Wagner et al., 2006) and increases interest in the practice. The flip side to the group format of practice will be the possible influence within the group of an individual's negative experience of the session. Others may be unconvinced of the explained rationale of the practice thereby transmitting such negativity through the group (Thompson and Gauntlett-Gilbert, 2008).

## **2.2 Mindfulness for young people – Review of Evidence**

Mindfulness studies have largely focussed on interventions within the adult population and have been shown to be efficacious in promoting psychological health and well-being (Burke, 2009). Research on the effects of mindfulness in young people is growing rapidly although is still not as extensive as those in adults. Studies have been conducted in both school and clinical settings for a wide range of ages and numbers of participants with a general consensus that the interventions are feasible and promising, generally accepted by participants and without any reports of adverse effects (Burke, 2009; Harnett and Dawes, 2012).

Two recent systemic reviews (Burke, 2009; Harnett and Dawes, 2012) and individual studies (detailed below) contribute to the weight of evidence to conclude that, mindfulness for young people is easy to perform, fits into a wide range of contexts, is enjoyed by both students and teachers, and does appear to have no negative effects.

Well conducted mindfulness interventions may improve the mental, emotional, social and physical health and wellbeing of young people who take part. Mindfulness has been shown to reduce stress, anxiety, reactivity and bad behaviour, improve sleep and self-esteem, and promote greater calmness, relaxation, the ability to manage behaviour and emotions, self-awareness and empathy. Mindfulness may contribute directly to the development of cognitive and performance skills and executive function. It may help young people pay greater attention, be more focused, think in more innovative ways, use existing knowledge more effectively, improve working memory, and enhance planning, problem solving, and reasoning skills. As this is a new field of study, most of the studies so far have been pilot studies and have several limitations such as small numbers, lack of appropriate control groups and the absence of standardized measures of outcomes. Also outcomes are mostly based on self-reports (Weare, 2012).

### **2.2.1 Group studies by condition:**

#### **ADHD (Attention Deficit Hyperactivity Disorder)**

Van Der Oord et al. (2011) evaluated the effectiveness of an 8-week mindfulness training in 22 children aged 8-12 with ADHD. The parents of these children were also trained and completed questionnaires on their child's ADHD and ODD (Oppositional defiant disorder) symptoms and their own ADHD symptoms. They further completed questions before (pre-test), immediately after the 8-week training (post-test) and at 8-weeks follow-up, on parenting stress, parental over-reactivity, permissiveness and mindful awareness. Teachers reported on the child's ADHD and ODD behaviour. The hypothesis for this pilot study was that mindfulness training would reduce inattention and impulsivity/hyperactivity in children, would improve parental mindful awareness, would reduce parental stress and over activity, but would not affect parental permissiveness. The study revealed a number of observations. Firstly, no changes were noted in the control condition (waiting list) which suggests that in general, any changes observed were unlikely to reflect the effect of time and assessment alone.

Secondly, children's ADHD symptoms as measured by parents were significantly reduced after the training. From pre to post-test there was a significant reduction of inattention (Effect Size (ES) = .80, large ES) and hyperactivity/impulsivity symptoms of the child (ES = .56, medium ES) on the parent rated Disruptive Behaviour Disorder Rating Scale (DBDRS) (Pelham Jr et al., 1992). Thirdly, parents' self-reported inattentive and hyperactivity symptoms on the ADHD Rating Scale (ARS) (Kooij et al., 2005) were significantly reduced as (ES = .36 and .48 respectively, small ES). These improvements in children and parents were maintained at follow-up. Fourthly, from pre training to follow-up, there was a significant reduction of over-reactive parenting and parental stress. There was however no reduction in teacher rated ADHD symptoms although significant improvement was noted by teachers in inattentive symptoms. The generalizability of the results may however be limited due to a small sample size and medium to high education level of parents.

Bogel et al. (2008) reported on 14 clinically referred youths aged 11-18 with ADHD, ODD, conduct disorder (CD) and autism spectrum disorder (-ASD) with externalizing problems who underwent an 8-week mindfulness training alongside parental mindfulness training (Concurrent Mindfulness Based Cognitive Therapy (MBCT) groups). The authors used modified MBCT, with a quasi-experimental within-participant waiting list control nonrandomized design. Children self-reported results indicating significant improvements post intervention on personal goals, internalizing and externalizing complaints, attention problems, happiness and mindful awareness, and performed better on a sustained attention test. Similarly, parents reported improvements on children's goals, externalizing and attention problems, self-control, attunement to others and withdrawal. Parents also improved on their own goals. However, the small sample size, nonrandomized waiting list, and the use of behavioural reports taken from informants who participated in the intervention (rather than blind third party measures) limit the capacity for generalization beyond the study.

Van De Weijer-Bergsma et al. (2012) investigated the effectiveness of 8-week mindfulness training on behavioural problems and attentional functioning in 10 youths with ADHD aged 11-15 years. Nineteen parents were also trained parallel to their child. Seven tutors also partook in the measurements and completion of the questionnaires and computerized attention tests before, immediately after, 8 weeks after and 16 weeks after training. Mindfulness training for the adolescents and their parents was in group format. Outcome was based on self-report measures of attention and behavioural problems and mindful awareness by adolescents and objective measures of sustained attention based on computerized tasks. Parents and tutors reported on adolescents' attention and behavioural problems and executive functioning. Parents also reported on their own parenting, parenting stress and mindful awareness. Self-reports from adolescents, father and tutor reports indicated a reduction in the attention and behavioural problems with an improvement in executive functioning. The performance of participating youths in the attention tests was also improved. Fathers but not mothers reported reduced parenting stress while mothers reported reduced over-reactive parenting with fathers reporting an increase. No effect on mindful awareness was found either in adolescents or parents. The effects of mindfulness training further improved at 8-weeks follow-up but declined at 16-week follow-up although still improved compared to pre-tests. This study suggests longer term benefits may require maintenance interventions.

### **2.2.2 Clinical populations with heterogeneous diagnoses including anxiety**

Biegel et al. (2009) conducted a randomized clinical trial (RCT) to assess the effect of mindfulness-based stress reduction (MBSR) in adolescents aged 14-18 years with heterogeneous diagnoses attending an outpatient psychiatric facility. The study recruited 102 participants who were assigned on a 1:1 basis to MBSR or treatment as usual (TAU). Participants receiving MBSR self-reported reduced symptoms of anxiety, depression and somatic distress, increased self-esteem and sleep quality, compared to the control group assigned to TAU. Results from this randomized clinical trial provide

evidence that MBSR may be beneficial as an adjunct to outpatient mental health treatment for adolescents with heterogeneous mental health diagnoses.

Semple et al. (2005) examined the feasibility and acceptability of MBCT for anxious children. Five children with anxiety-related academic difficulties received a 6-week, 45-min-per-week, manualized MBCT-C training programme. The children from an urban elementary school were referred by their classroom teachers based on observed symptoms of anxiety. Participants showed improvements in academic performance and teacher-reported problem behaviour.

Napoli et al. (2005) used an integrative programme of mindfulness and relaxation (RCT) with 194 children in first to third grade, from nine classrooms within two elementary schools in a US South western city, using the Attention Academy Programme (AAP). The AAP is to help students improve their quality of life through practicing mindfulness. Its goals are to help students learn to increase their attention to the present experience, approach each experience without judgment and to view each experience as novel. Ninety-seven of the children chosen at random were placed in the experimental group of receiving AAP training and the other 97 represented the control group with no AAP training. The AAP lasted for 12 sessions over 24 weeks for 45-min per session. Prior to and at the end of training, each child completed or was measured with four established measures. The ADD-H Comprehensive Teacher Rating Scale (ACTeRS) (Ullmann et al., 1991), the Test of Everyday Attention for Children (TEA-Ch), utilizes 5 subtests measuring sustained and selective attention (Manly et al., 2001), and the Test Anxiety Scale (TAS) (Sarason, 1978). Participants exhibited a significant increase in selective attention and decreases in both test anxiety and ADHD behaviour.

Bootzin and Stevens (2005) examined the effects of an integrative mindfulness-based intervention with 55 adolescent substance abusers aged 13–19 years who had complaints of sleep or daytime sleepiness problems. They were completing or had recently completed outpatient substance abuse treatment programmes. A six session



intervention that included components of MBSR and insomnia treatment significantly improved sleep and reduced worry and mental health distress, as recorded by their self-reports in the daily sleep diaries. Non completers of the open-label six session intervention provided results for comparison to the completers. Completers attended a mean of 5.04 sessions (S.D=0.767; 30.4% of the completers attended all 6 sessions); non completers attended a mean of 0.65 sessions (S.D=0.877; 56.3% of the non-completers did not attend any sessions). Measures were also taken from the actiwatches, devices that measure body movement and worn by participants at night to sleep as a wrist watch. This eliminates the subjective assessment of the participants like with diaries.

### **2.2.3 Depression**

Lau and Hue (2011) conducted a pilot controlled trial assessing preliminary outcomes of a mindfulness based programme in schools in Hong Kong. Twenty four 14 to 16 year old adolescents with low academic performance, due to the categorisation of their local schools as Band 3, took part in the intervention. The two schools chosen were the lowest banding schools in Hong Kong which indicates that students in this band have lower learning ability and lower learning performance. Twenty four adolescents in the control group completed the pre and post assessment without any intervention. The 24 participants received a 6-week intervention aiming to improve well-being, reduce stress and symptoms of depression. Depressive symptoms were measured by the Depression Anxiety Stress Scales (DASS) (Lovibond and Lovibond, 1993) which is a 42-item instrument measuring the three dimensions of negative emotional states namely depression, anxiety and stress, with 14-items for each domain. A four-point Likert-type scale ranging from '0' ('did not apply to me at all') to '3' ('applied to me very much, or most of the time') is used for the assessment. Post-hoc t-tests found that the depressive level of the intervention group did not increase on DASS after the intervention (DASS:  $t(23) = -1.57$ ,  $p = 0.13$ ) but the control group had higher depressive levels with significantly lower scores at the post-intervention (DASS:  $t(23) =$

3.10,  $p = 0.01$ ). This shows therefore that the mindfulness programme was significantly related to the reduction of depressive levels of the intervention group. There were no significant interactions found for the dimensions of perceived stress (PSS:  $t(23) = -2.02$ ,  $p = 0.06$ ). Well-being was assessed by the Scales of Psychological Well Being (SPWB) (Ryff & Keyes, 1995) which consists of a 46-item measure with six domains including purpose in life, autonomy, environmental mastery, personal growth, positive relations with others, and self-acceptance. A six-point Likert-type scale ranging from '1' ('strongly disagree') to '6' ('strongly agree') is used for the assessment. The effect for well-being as a whole appeared null in this case so repeated ANOVA were performed to determine the effect of mindfulness on the different dimensions of well-being as captured by the SPWB. There was a significant interaction for the dimension of personal growth. Paired samples t-test showed that the experimental group had a higher level of personal growth  $t(23) = 2.24$ ,  $p = 0.04$  while the control group had a lower level in the post-test,  $t(23) = 2.13$ ,  $p = 0.04$ . There was no significant reduction in the other dimensions of well-being.

### **2.3 Research about MINDUP studies with Adolescents in North America**

MindUp is one of the growing number of mindful educational programmes (ME) attempting to address difficult adolescent social and emotional problems and learning. The Hawn Foundation, founded by Goldie Hawn in 2003 has been actively spearheading its MindUp educational programme, a research based training programme for educators and children. It has investigated ways to demonstrate the effectiveness of Social Emotional Learning (SEL) and mindful education curricula with the intention of promoting a deeper understanding of approaches and strategies to help children develop self-awareness, focussed attention and emotion-regulation as well as gaining those necessary SEL skills for enhanced academic success. The programme has been rigorously researched and accredited by CASEL (Collaborative for Academic and Social Learning). The ME programme teaches skills that link cognitive neuroscience, positive psychology and mindful awareness training, utilizing a brain

centric approach. It has been proven to reduce stress, improve academic performance, and gain emotional resilience and optimism (Hawn Foundation, 2011).

One major study was conducted on the effectiveness of a mindfulness-based education programme such as MindUp, by Dr Kimberley Schonert-Reichl and colleagues at the University of British Columbia. They reported on the results of that quasi-experimental study evaluating the effectiveness of the Mindfulness Education (ME) programme on 246 youths attending 4<sup>th</sup> to 7<sup>th</sup> grades. The ME programme group had a total of 139 children 70 boys and 69 girls with a mean age of 11.43 years and a range of 9.42-13.49. The waiting list control group had 107 children 57 boys and 50 girls. The programme involved 10 structured lessons over a 10 week period with the key involvement of all the children in the classroom. The topics covered were Introduction to mindfulness; Learning about affirmations; Concentrating on positive emotions and outcomes; Learning how to eliminate negative thinking; Acknowledging one another; Team work- understanding goal setting as a group; Having a healthy body; Making friends – interpersonal relationships; No problem only opportunities; and lastly, Celebrating success. During the programme participants are engaged in mindful attention training exercises three times a day, spending three minutes for each practice, extending to longer periods as the programme proceeds. The practice consisted of sitting in a comfortable position, attentively listening to a resonating sound such as that of a bell or chime and using the breath as the focus for being mindful in the present. The ME programme was delivered by a teacher who received a 1-day intensive training session and a two weekly consultation. The teachers kept a daily “ME Programme” diary in which they recorded their daily implementation of the core mindfulness exercises described above and provided their overall assessment at the end of the survey via an open ended question.

There were no baseline differences between ME programme students and controls on all measures namely the intervention effects of optimism, positive and negative affect and self-concept. The other measures based on Teacher-rated social and emotional

competence, looked at variables of aggressive behaviour, oppositional behaviour/dysregulation, attention and concentration, and finally social-emotional competence. There were no systemic differences in teacher characteristics between the ME programme and the waiting list control, with comparable attributes for teachers across the two groups. Teachers showed good implementation of the programme and considered it beneficial to their students.

All students (experimental and control) completed pre-and post-training self-report measures assessing optimism, general and school self-concept, and positive and negative affect. Teachers rated students on classroom behaviour focusing on aggressive behaviours, oppositional behaviour/dysregulation, attention and concentration, social and emotional competence. Participation in the ME programme was associated with significant increases in optimism and positive affect compared to the control condition over the 10 week period. There were no changes in reports of negative affect for both groups. Compared to the control group, younger ME participants showed significant improvements in general self-concept, while older adolescent ME participants had the opposite effect. Based on teacher ratings, the ME programme improved Attention and Concentration, and Social Emotional competence.

This study provides encouraging data for the effectiveness of the ME programme. However, individual effects of the programme are difficult to discern based on classroom participation. The long-term stability of the effects of ME is also unclear given the lack of follow-up data (Schonert-Reichl and Lawlor, 2010).

## **2.4 Summary**

In summary, a number of studies have been conducted on mindfulness in young people both in the clinical settings and in schools, which expound on the benefits of mindfulness trainings in young people. The pilot study presented in this thesis, with its appropriate adaptations, makes use of the findings from other studies to explore the feasibility of mindfulness intervention in disadvantaged young people.

## **Chapter Three**

### **Methods**

The study used an open trial pre-post design to determine the feasibility of mindfulness training for young people and to find out how acceptable the training is to them as indicated by the drop-out rate. The study only recruited fluent English speaking participants attending a local sports gym, Fight4Change in south London, Lambeth. There are little data for the use of mindfulness training for urban young people from disadvantaged and socially excluded communities. These young people are often best served by very flexible, innovative and body-focused sporting activities such as martial arts and boxing. This is an indirect way to support them in making sensible choices as they navigate life and face daily stressors. These individuals are the target of this pilot study.

This pilot study of Body in Mind Training programme, joined forces with local charity Fight4Change, which is based in Lambeth, London, UK (Fight4Change, 2009). Fight4Change was founded in 2009 by former WBC Super Middleweight Champion, GB Olympic coach and TV commentator Richie Woodhall, with support from a range of individuals who work with the sports and community development environment. This organization uses boxing to engage hard-to-reach young people and redirects them into further education, training or employment. It is supported by various charitable foundations (for example Lottery, Dispossessed Fund).

It was proposed that the Body in Mind Training might provide a further avenue for training body and mind simultaneously in a way to benefit these young people, after an informal discussion with the Director and Founder of Fight4Change, Rebecca Donnelly who is part of Dr Tamara Russell's martial arts network. The Body In Mind Training (BMT) programme has previously been delivered to individuals with severe and enduring mental illness (Russell, 2011) and as such, the way it has been designed to support this group of individuals has many similarities with the adaptations that are

needed for working with young people (shorter body and movement based practices and fun materials). Therefore this study aims to evaluate the feasibility of the five week BMT training for young people at the Fight4Change Academy, Lambeth. The training consists of 5 sessions of 90 minutes duration whereby body-based mindfulness exercises are used to illuminate training points related to how the body and mind react to stressful situations and how training attention can help participants respond to rather than react to stressful situations.

The study was approved by the Kings College London Research Ethics Committee (Reference Number: PNM/12/13-146). Participants who indicated interest in participating in the study were given an information sheet and consent forms (Appendix1) to take home to their care-giver or for themselves if they were over 16, with stamped addressed envelopes in which the consent forms were returned. Other participants returned their consent forms via the trainer on the first day of training. The researcher designed a check list to help participants and their caregivers understand the key issues involved in taking part. Both the parent or care-giver and young person were required to give consent.

### **3.1 The Intervention: The Body in Mind Training (BMT)**

The intervention was conducted in the gym Fight4Change Academy, which is based in Lambeth, London. Participants were not offered payments, but those who completed all five sessions had their names entered into a lottery at the last session to win a £25.00 Amazon voucher. Participants who enrolled in the mindfulness training completed the five week Body in Mind Training programme, (BMT). The group met at various locations at the Fight4Change gym. One issue was the lack of a dedicated space. Therefore, over the five weeks, the group was run twice in the canteen area, once in an outside space (as the weather was good) and twice in the upper balcony of the gym area. The latter location was not ideal as there was traffic passing by during times when classes in the gym were changing over. Despite this, the young people managed on these occasions to complete a body scan meditation without getting

distracted. This experience leads to the suggestion that it would be vital for any future study to try to ensure that there is a dedicated space for the training. This may help the young people feel more secure in exploring their mental and physical experiences. The reality, however, of delivering this training in the third sector (charity organizations) where vulnerable hard to engage young people can be met, means that this is not often the case. Meeting young people on their territory is good for engagement. However, it does not allow so much control over the delivery of the training in terms of allocated space.

Parents did not attend the interventions because no individual under 16 was trained. The researcher did not collect any data from the parents as was done for the young people. To ensure methodological rigor, the researcher did not attend the training, to keep the evaluation separate from the delivery, thus controlling for bias in methodology. Method biases are one of the main sources of measurement error that may affect the validity of the conclusions about the relationships between measures. It is also well recognized to have a random and a systematic component (Bagozzi et al., 1991; Nunnally, 1978; Spector, 1987). Standardizing the protocols for data collection such as the training of study personnel, keeping the researcher separate from the interventions, can minimize inter-observer variability when multiple individuals are collecting and entering data (Pannucci and Wilkins, 2010). The role of the researcher entailed preparation of the materials for the study, data entry and analysis.

### **3.1.1 Adaptations to the BMT Programme.**

Dr Russell is the founder of the BMT and she developed the BMT booklet which was used by the young people in this study. The booklet was user friendly and contained informative pictures and diagrams. These explained the different concepts of mindfulness, and set out exercises for participants to undertake, enabling them to reflect on their knowledge of mindfulness. In order to increase both relevance and engagement for young people, adaptations were made to the BMT involving the duration of the training being adapted to five weeks, instead of eight weeks. This was

to make the training more appealing as a commitment. Young people are more likely to be fidgety therefore the session was shortened from the usual two and half hours to ninety minutes. Young people accept with increasing discomfort the experience of longer sessions and find it hard to resist urges to move and fidget (Thompson and Gauntlett-Gilbert, 2008). The shorter duration of the programme aimed at getting young people more motivated and engaged in the training. As the study was conducted in a boxing gym, martial arts and other physical activities were introduced as part of the mindfulness BMT, aiming to get participants interested in the training. The trainer kept the practice less formal in order to make young people comfortable and relaxed with the use of the body and movement being the main training tool to enable young people to engage in its practice all the time. More conceptual information and explanation of the brain science behind it was given to enhance curiosity and develop internal motivation. Discussion was encouraged by the trainer at the end of each session as sharing of experiences made the group dynamics more interesting and further motivated participants in their engagement. One important part of teaching mindfulness is the discussion following practice where individuals are asked for feedback on their experiences. The effectiveness of these post-practice discussions can be further enhanced with the sharing of the different experiences and comments from group members. Participants can then speak freely and express their feelings through such discussions allowing automatic experiences to be normalized. Therefore even in the presence of boredom or frustration, mindful responses can be encouraged (Thompson and Gauntlett-Gilbert, 2008).



### **3.1.2 Five Weeks BMT training**

Each session had a theme which was explored using physical movement and with a description of the brain science behind it, as well as attempts to generate discussion in the group about their experiences related to the topic. The themes were Session 1 – Pause; Session 2- Intention; Session 3 – Attention; Session 4 – A PhD in Me; Session 5 – Taking care of ourselves. In each session, participants completed movements related to that theme. As each movement was completed, they were given the instruction to keep their attention and their minds in the body to allow a full exploration of the movements. In some classes this was assisted by doing exercises with the eyes closed to enhance proprioceptive feedback and introduce the idea that it is possible to prioritise certain sensory channels, whilst at the same time acknowledging and accepting other mental phenomena (thoughts, feelings, images and memories). In each session participants also completed a number of key mindfulness exercises including mindfulness of the breath (three minutes, completed several times during each session) and a short (10 minutes) body scan at the end of each class. At the last session, the trainer distributed the questionnaires with stamped addressed envelopes. The researcher collected all the post data from the young people via post. A month later, a 60 minutes follow up session was offered at the Fight4Change Academy to inform the parents and young people about the results of the study. The Body in Mind Booklet used for this intervention is in (Appendix III)

## **3.2 The Outcome Measures**

### **3.2.1 Mindful Awareness and Attention Scale for Adolescents (MAAS-A) (de Bruin et al., 2011, Brown et al., 2011) Appendix II**

An adapted MAAS scale was devised by (Brown et al., 2011; de Bruin et al., 2011) for use with adolescents (MAAS-A). The MAAS-A is an instrument employing 14 items as against the 15-items of the MAAS, and both measure the general tendency to be attentive to and aware of present-moment daily lives experiences. It gives a single total score from its single factor structure. The higher the mean score the higher is the level of disposition to mindful awareness and attention. Each of the 14-items of this instrument is answered on a 6-point Likert-scale that ranges from 1=almost always to 6=almost never. It has good internal consistency ( $\alpha=0.80-0.90$ ) and a sturdy test retest reliability ( $r=0.81$ ) (Brown and Ryan, 2003). It is noteworthy that the MAAS has received criticism concerning its content and specificity (Grossman, 2011) For example, some substance using populations score higher on the MAAS (Dakwar et al., 2011; Zgierska et al., 2008) thereby lowering its specificity with regard to the study population presented here. The benefits and shortcomings of the MAAS are discussed in subsequent sections.

#### **Scoring**

A mean of the 14-item scores provides a single score and the higher this score is, the higher is the level of dispositional mindfulness.

### **3.2.2 The Perceived Stress Scale (PSS) Cohen et al. (1983) (Appendix II)**

This measures the degree to which situations in one's life are appraised as stressful. It is one of the most commonly employed instruments in the measurement of the perception of stress. Initially designed for use in community samples, it is however useful in almost any setting or population. It may be applied to high school students or those with at least a junior high school education, rendering it suitable for young people above the age of 14. With support however, younger children are anticipated to be able to complete the scale due to the brief and simple nature of the questions. PSS has been used in many other mindful based studies. The scale has differing versions depending on the number of items or questions on the scale. As such there is a PSS-4, PSS-10 and a PSS-14. This study makes use of the 10-item version of the scale and like all the other versions, has a 4-point Likert scale ranging from 0-‘never’ to 4-‘very often’ (Cohen et al., 1983). The items on the scale dwell on feelings and thoughts within the last month.

#### **Scoring:**

By reversing the scores on the four positive items of 4, 5, 7 and 8, PSS-10 scores are obtained. e.g., 0=4, 1=3, 2=2, etc. Then all the 10-item scores are added together for a single score. The total perceived stress is therefore the sum of all the 10 items including the reversed scores of item 4, 5, 7 and 8.

### **3.2.3 The Rosenberg Self Esteem Scale (Rosenberg,1965) (SES) (Appendix II)**

This scale is a ten item Likert scale with items to be answered on a four point scale - from strongly agree, agree, and disagree to strongly disagree. The original sample for which the scale was developed consisted of 5,024 High School Juniors and seniors from 10 randomly selected schools in New York State rendering it suitable for adolescents.

Test-retest Reliability – Correlations ranges from 0.82 to 0.88. Internal Consistency - Cronbach's alpha ranges from 0.77 to 0.88. Items on the scale relate to thinking about the last month.

Scoring:

SA=3, A=2, D=1, SD=0. Items no 2,5,6,8 and 9 are reverse scored, that is, SA=0, A=1, D=2, SD=3. Sum the scores for the 10 items, the higher the score, the higher the self-esteem.

## **Chapter Four**

### **Results**

#### **4.1 Data Type**

Results of this research were garnered from two types of data:

The quantitative data included the pre and post scores on the three questionnaire measures Mindfulness Awareness and Attention Scale for Adolescents (MAAS-A), Perceived Stress Scale (PSS) and Rosenberg Self Esteem Scale (RSE). These were analysed using descriptive statistics and a nonparametric test to compare pre and post data (Wilcoxon related samples test) and two-tail p values are reported.

The qualitative data included written comments on the feedback form administered after the training. This set of post data consist of the self-report response provided by the young people.

#### **4.2 The Sample**

The flow of participants through the study is shown in Figure 2.

Ten participants started the training (9 male and 1 female) between the ages of 14 and 25 years old regularly attending the Flight4Change academy in Lambeth.

Full pre/post quantitative data were obtained for 5 participants (1 female) who completed the training. On average they completed 3.40 sessions (SD = 1.14, range 2-5).

Table 1 below gives a brief summary of participants completing or dropping out.

**Table 1: Participants**

<b>Signup</b>	<b>Completed</b>	<b>Drop Out</b>
10 (1 Female)	5 (1 Female)	5 (all male)

#### Participants who dropped out

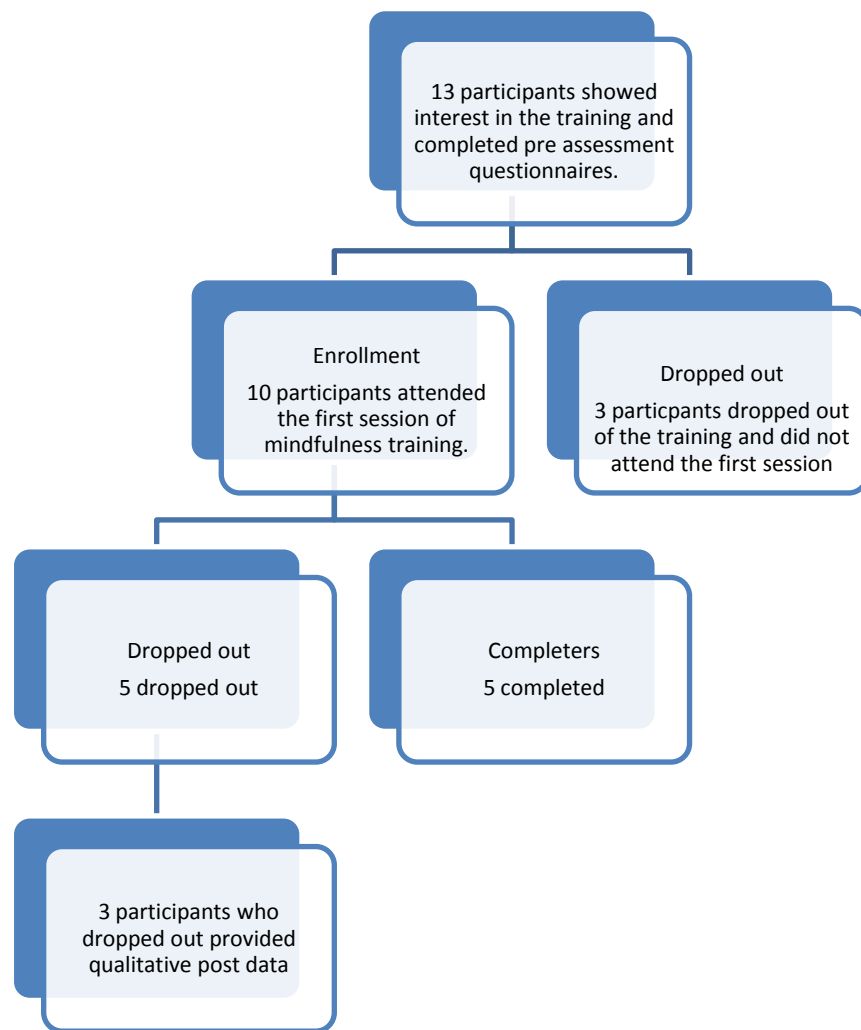
One participant left the group half-way through Session 1, and the remaining (4) failed to return for Session 2. Of those who dropped out, three provided post data. Of these, one completed the questionnaire in a manner suggestive of not taking the time to read it properly (circling only one answer, all the way through for all questions). Therefore, for quantitative data there are N=2 participants who dropped out and who provided data so this is not sufficient to conduct any analyses between those who engaged and those who did not.

Of those who dropped out, three provided Qualitative Post Feedback which is shown in Table 3 (Non-Completers who provided Qualitative Feedback).

#### Extra Participants that Joined

Two participants joined once the training had started and did not provide data. One male joined at Session 2 but did not return; one female joined at Session 3, and completed Sessions 3, 4 and 5. She provided Post data but not Pre data. Her quantitative data were not included due to the lack of pre questionnaire data but her qualitative data was included.

**Figure 2: Participant flow through the study**



### 4.3 Missing Data

Missing data were minimal for the quantitative part and are reported in table 2 below.

**Table 2: Missing Data**

Scale	Number of Missing data points
MAAS- A Pre	0
MAAS – A Post	2
PSS Pre	0
PSS Post	0
RSE Pre	0
RSE Post	1

**Table 3: Non Completers who provided qualitative post feedback**

ID Number (Those who dropped out)	Did you Enjoy the training?	Would you recommend it to a friend?	What was the most helpful thing you learnt?
2	Not sure - I was fully able to participate in the activities, but felt somewhat outside of my comfort zone	Yes	Though I only did the 1 session I learned that focusing on listening to my heartbeat helped me with my recovery
3	No answer given (Reported "Wanted to do boxing" in box asking "Any other comment")	No answer given	No answer given
10	Not sure	Yes	No answer given

N=2 who dropped out and did not provide post feedback forms



#### **4.4 Quantitative Data**

##### **Demographic and Baseline Data**

There were no statistically significant differences in the demographic information between those who dropped out and those who completed (Table 4). Specifically, those who dropped out did not differ significantly from those who completed the training in terms of their age, years of education, time at the gym as well as the pre-scores of the MAAS-A, PSS and RSE (all  $p$  values  $> 0.05$ ). Post scores differences between the two groups could not be computed because of the small number of people who completed the training. The comparison of the demographics using non-parametric tests is summarized in Table 4.

#### 4.5 Measures

**Table 4: Statistics for Main Questionnaire Variables for completers and those who dropped out**

	<b>Completers (N =5)</b>	<b>Drop out with Pre Data Only (N =5)</b>	<b>Non- Parametric Test Statistic</b>	<b>Significance (p value)</b>
Age	Mean = 18.08 SD = 3.03 Range = 16-24	Mean =19.8 SD = 3.49 Range = 16-23	12.00 <sup>4</sup>	0.91
Years of Education <sup>1</sup>	Mean = 13.2 SD= 1.09 Range = 12-15	Mean = 11.50 SD = 4.95 Range = 8-15 <sup>2</sup>	4.50 <sup>4</sup>	0.84
Time at Fight 4 Change Gym (in months)	Mean =6.71 SD = 7.34 Range= 0.25-18	Mean = 12 SD = 4.89 Range = 6-18 <sup>3</sup>	5.00 <sup>4</sup>	0.22
MAAS-A –Pre	Mean = 4.15 SD = (0.56) Range = 3.62- 4.92	Mean = 4.86 SD= (0.82) Range =3.69- 5.85	5.50 <sup>4</sup>	0.14
MAAS-A-Post	Mean = 3.82 SD=(1.32) Range = 2-5	(N=2 only) Not Calculated	N/A	Not Calculated
Perceived Stress Scale – Pre	Mean = 14 SD= (3.67) Range = 8-17	Mean = 16.60 SD =(6.02) Range =11-26	10.50 <sup>4</sup>	0.67
Perceived Stress Scale – Post	Mean = 12.2 SD = (6.38) Range = 3-21	(N=2 only) Not Calculated	N/A	Not Calculated
Rosenberg Self-Esteem – Pre	Mean = 22.0 SD = (3.0) Range =17-25	Mean = 20.0 SD= (4.90) Range = 14-26	8.00 <sup>4</sup>	0.34
Rosenberg Self-Esteem – Post	Mean = 21.8 SD =(3.90) Range = 16-27	(N=2 only) Not Calculated	N/A	Not Calculated

1. Years of education calculated from when the individuals started primary school (age 4 or 5 years)
2. Data missing for two of the individuals who dropped out
3. Data was missing for one individual who dropped out
4. Mann-Whitney U Test for Independent Samples
5. Wilcoxon Sign Ranks Tests for Related Samples

### **MAAS-A**

A non-parametric Wilcoxon test was used to compare Pre and Post scores for those who completed the training with respect to their Mindfulness level. The test result was not significant (Mean Negative Rank=3.00, Mean Positive Rank=3.00,  $p=0.68$ ), suggesting that there is no difference in the level of Mindfulness for participants after the training. However, closer examination revealed that 2 individuals out of 5 (40%) had a lower mean MAAS score after the training and 2 had a higher one. One participant stayed the same. These results are summarised in table 5 below.

**Table 5: Individual pre and post data for MAAS-A for completers**

NO.	MAAS-A PRE MEAN	MASS-A POST MEAN
1	3.62	2.00
2	4.00	4.00
3	4.92	5.00
4	4.54	4.00
5	3.69	4.00

### **Perceived Stress Scale**

A non-parametric Wilcoxon test comparing Pre and Post Scores on the PSS Scale for those who completed the training suggested that participants' stress levels did not statistically differ after completing the training (Mean Negative Rank=2.75, Mean

Positive Rank=4.00,  $p=0.33$ ). Closer examination of the ranks shows that 4 out of 5 individuals (80% of the sample) reported lower PSS scores at the end of the training indicating that the training affected their perceived stress levels in the expected direction. These results are summarised in table 6.

**Table 6: Individual pre and post data for PSS for completers**

NO.	PSS PRE MEAN	PSS POST MEAN
1	17	12
2	16	21
3	8	3
4	16	13
5	13	12

### **Rosenberg Self-Esteem Scores**

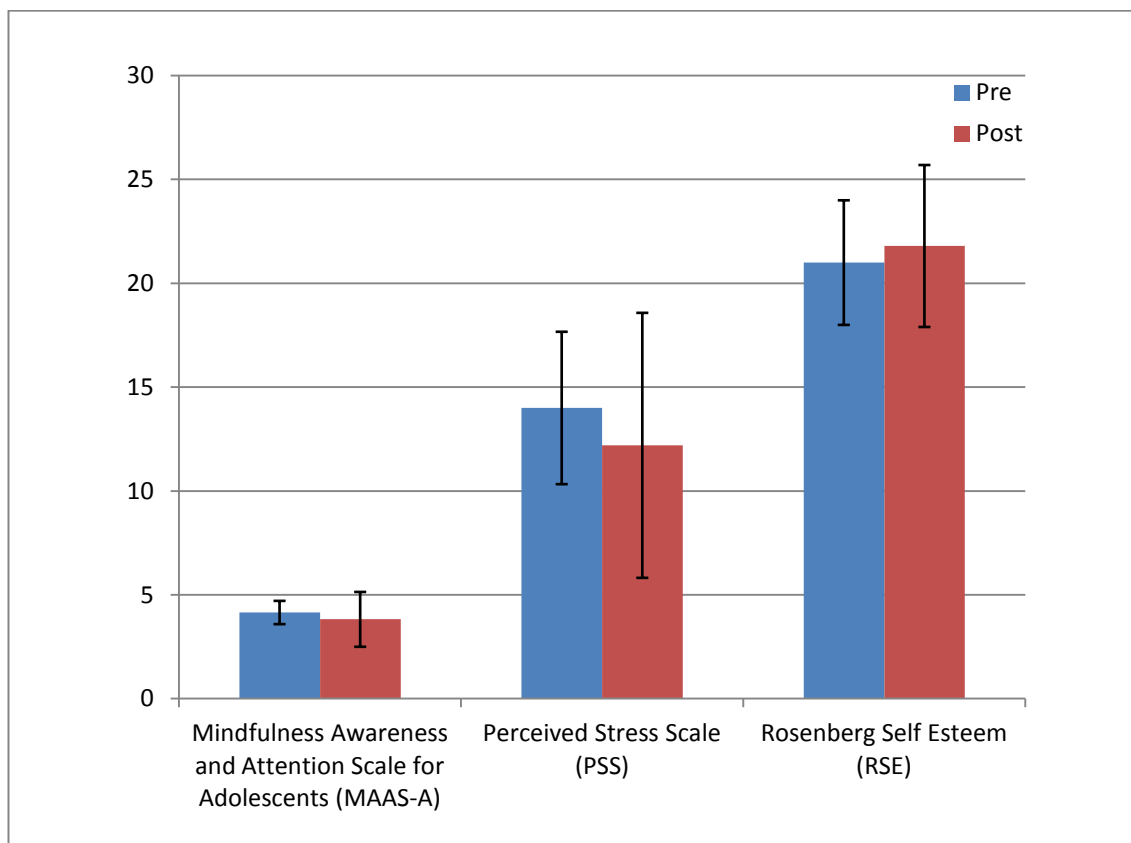
A Wilcoxon test was used to compare Pre and Post Scores for those who completed the training with respect to their self-esteem levels. The test result was not significant. This suggests that the training did not have an effect on participants' self-esteem levels.

Three individuals out of 5 had lower self-esteem scores after the training and one had a higher score and one remained the same. Three out of five (60% of the sample) showed a decrease in self-esteem scores following the training. (Mean Negative Rank=2.00, Mean Positive Rank=4.00,  $p=0.71$ ). These results are summarized in table 7 below.

**Table 7: Individual pre and post data for RSES for completers**

NO.	RSES PRE MEAN	RSES POST MEAN
1	23	22
2	17	16
3	25	27
4	23	22
5	22	22

**Figure 3: Bar Graph of Mean of each Scale before and after the intervention.**



Bar Graph of Mean and Standard Deviation of each Scale before and after the intervention

#### 4.6 Qualitative Data

The qualitative feedback from those who completed the training is shown in Table 8

Overall, all participants said they enjoyed the training, would recommend the training to a friend, they have learnt something positive during their training and agreed that all the training was necessary. Four out of five participants reported that they understood almost everything in the training and nothing was unclear. Finally, three of the five participants said nothing extra was needed for the training or had no additional comments to make. The remaining two of the five participants reported enjoying the sessions and stated they would have preferred less intense physical activity.

Table 8: The qualitative feedback from those who completed the training

Participants numbers	Did you enjoy this training?	Would you recommend this training to a Friend?	What was the most helpful thing you learnt during the training?	Was there anything you did not understand or that was not clear?	Is there any part of the training that you think there should be more of?	Was there any part of the training that you think was not necessary?	Any other comments? (please use this space if you dropped out of the training to let us know why)
1	Yes	Yes actually did!	Relaxing and becoming more aware	(How) some of the questionnaires (were) worded	NO	NO	NO
4	Yes	Yes	Understanding your body and focusing on particular body parts when exercising. Also learning how to relax and understanding the ability you have. You can condition your body to do anything with practice and determination.	NO	More body strength	NO	I really enjoyed the sessions. It has taught me how to relax and awareness of the importance of the mind's strength especially with balancing and understanding your body.
6	Yes	Yes	Train my Mind	NO	NO	NO	NO
7	Yes	Yes	To drop your mind in a certain part of the body.	I understand a good amount	Blindfold so we could try to adapt more to our surroundings	NO everything was helpful	
11	Yes	Yes	Relaxing my mind and body	Nope	Having time to answer the booklet	Nope	Do less jumping

## **Chapter five**

### **Discussion**

#### **5.1 Overall Summary**

This pilot study reported in this thesis was aimed at determining the feasibility of five week mindfulness training, with urban adolescents from disadvantaged and socially excluded communities, and how acceptable the training was to them. The hypotheses for this study were that young people who have completed Body in Mind Training will show: (a) improved self-esteem as measured by the Rosenberg Scale for self-esteem (RSE) (b) reduced perceived stress as measured by the Perceived Stress Scale (PSS) and (c) be more mindful as measured by the Mindfulness Attention Awareness Scale for Adolescents (MAAS-A). The findings do not allow any firm conclusions to be drawn mainly due to the small sample size and high drop-out rate. Lessons learned from this experience are discussed below.

#### **5.2 Comments on Feasibility**

The findings of this study imply that the mindfulness programme is feasible for adolescents since 50% of participants N=5, completed the training, although future studies will require some refinement. A 50% drop-out is rather big and raises issues regarding the motivation of young people in participating in such initiatives. It indicates a lack of acceptability and future use of this package will require additional adaptations to render it more feasible and acceptable to young people.

The BMT training was delivered in a boxing gym. It was initially thought that this would provide a good place to access young people. However, young people attending the gym



were more focused on boxing activities and were not particularly motivated to engage in another activity such as mindfulness training. This means that the setting where BMT is offered requires further consideration. Several options could be explored. One such option is to offer BMT in the gym but not when boxing activities are also ongoing. In this way, potentially interested participants would not have to choose between BMT and other options. A further possibility is to consider other community settings that may be perceived by young people as more appropriate or suitable for BMT. Having a consultation group with young people prior to starting a project with regards to what they would find acceptable as a venue for BMT may be necessary in planning future studies.

A further consideration relates to space allocation for BMT training within facilities that are not traditionally focused on such activities. In the context of this study, the lack of dedicated space within the gym meant that over the five week programme the training location changed in order to accommodate other gym activities. It was not possible to have a dedicated training room for the project. While this did not overtly compromise the training, it may have prevented optimum training as there was lack of consistency in the space used.

The lack of dedicated space presented additional problems. Young people participating in mindfulness activities had to do so while other gym members were walking past or looking in at them (through glass windows). While this might provide a very realistic environment in which to learn and practice mindfulness (as it is really in the “real world”), it may be easier for them to have embedded the practices had the training environment been quieter. An example was in the fifth session, when using a landing space for the final body scan, other young people were walking past to access the basketball courts. Despite this, all

participants said they had managed to complete the exercise and felt relaxed. None got up or disengaged at that point.

A taster and/or motivating session prior to the commencement of the therapy could be beneficial in reducing participants' drop out rate, ensuring they remain keenly focussed on the completion of the intervention with a clearer understanding of what to expect. These motivating interviews could further help weed out participants who remain sceptical or show ambivalence towards the mindfulness training.

### **5.3 Participant Drop Out**

A 50% drop out in this study is high and higher than that reported in other studies in young people. Other studies such as Biegel's randomised clinical trial (Biegel et al., 2009) reported that 28% of their sample dropped out. The study of Lee et al. (2008) on mindfulness-based cognitive therapy for children used a community base for their mindfulness intervention. They reported a 32% drop out of their sample where a total of eight participants dropped out. Three dropped out after the first session. This was either due to scheduling conflicts with the Saturday session or exceeding the age required or parent concerns about the nature of the clinical assessment. The other 5 drop outs gave reasons of religious fears of contradicting beliefs, transportation issues and premature termination resulting from sporadic attendance. In Lau and Hue (2011) an 11.1% drop out was recorded due to 5 students deciding to leave after the first session with no reason given. Biegel's study recorded a 28% drop out due to 28 non-completing participants. Twenty-two of these non-completers were contacted after the study ended, by phone to ascertain the reasons for not completing the study. Reasons given included: disinterest in the programme; parental influence to cease attendance and fluctuating interest in the completion of the questionnaire at follow-up. Also included were transportation issues,

problems with scheduling and geographic relocation. One study that had a dropout rate of close to 60% was that of Bootzin and Stevens (2005) in which a six-session group was treated for sleep disturbances in adolescents who received treatment for substance abuse. Thirty-two out of the 55 total participants were considered as non-completers and dropped out for a variety of reasons. This included competing work commitments, incarceration and unwillingness to go through the burden of the high assessments involved and commuting to the treatment locations. Non-completers exhibited less drug use 30 days prior to the intervention whilst completers recorded almost twice the drug use of non-completers. It can then be argued that the high dropout rate observed here is influenced by the participants' perception of the need and relevance of further intervention seeing as their use of drugs had reduced and their sleep indices were better at baseline than that of the completers.

Some of the factors that may account for the high drop-out rates observed in this study are considered below. Before the training, the gym Director encouraged participants to engage. All those that dropped out had been encouraged to attend by the director. Table 4 in the results shows that these individuals had been the longest at the gym and we might speculate that the reason they signed up was external (to conform to the gym directors' suggestions) rather than internal. The fact that they dropped out after the first session suggests that the session probably did not provide them with sufficient personal/internal motivation to continue with training.

Mindfulness training, and particularly mindfulness based stress reduction (MBSR) was initially developed for individuals suffering from chronic physical pain. The hope of relief from pain may have provided a strong incentive for participation. This motivational attitude is very different from that of young people who may not necessarily identify themselves as

having a problem. Therefore, this study tested whether healthy young individuals would be more willing to access mindfulness training in the context of their more general interest in controlling and developing their body through boxing and related activities. However, motivation is clearly important in this setting and with this group. Future studies therefore might make it clearer about what is involved to the young people or use a tiered approach. This might include some open group drop in classes from which a smaller pool of those interested in “closed” group training might be drawn. In fact, two young people did join the ad hoc sessions, one of whom stayed and engaged until the end.

Studies of mindfulness have been conducted in either a community health setting such as (Biegel et al., 2009; Bogel et al., 2008; Bootzin and Stevens, 2005; Van De Weijer-Bergsma et al., 2012) or in school settings such as found by (Lau and Hue, 2011; Napoli et al., 2005; Wall, 2005). MiSP studies in the UK (Hennelly, 2011; Huppert and Johnson, 2010; Kuyken et al., 2013) are examples of studies conducted in the non-clinical population of schools, where the motivation or support to attend these trainings were much higher either from an internal perspective (the young person is suffering) or an external perspective (it is being offered as a classroom activity with little option to disengage). Both teachers and trainers provided additional motivational incentive for the full participation of young people.

#### **5.4 Questionnaire Measures**

The sample size in this study was too small to conduct meaningful pre- and post-intervention analyses. They were undertaken for the sake of completeness and as part of the training provided in the context of an MPhil thesis. Questionnaire measures chosen for this study were the RSES, PSS and MAAS-A, as discussed in Chapter 1. Young people were most likely to be experiencing difficulties with self-esteem, stress and the general

tendency to be attentive to and aware of present moment daily lives experience. These are the most common instruments employed in the measurement of perception of stress, self-esteem and mindfulness. These scales have been developed and used in community samples and with young people and they have been shown to have good psychometric properties and have been used in various studies with young people indicating their suitability for this group.

The results for the perceived stress scale showed change in the expected direction; 80% of participants reported lower PSS scores at the end of the training indicating that their perceived stress level reduced. Contrary to expectations, participants had lower scores in the MAAS-A after the 5 weeks of Mindfulness intervention while the SES scores remained largely unchanged. (Figure 3)

## **PSS**

The PSS score showed a reduction from a pre intervention score of (14, SD= 3.67) to a post intervention score of (12.2, SD= 6.38). This is an indication of a reduction of stress in the participants (Figure 3). The score in our sample is comparable to that of the normative mean reported for a USA population of young adults (Cohen et al., 1983). The authors conducted a large scale poll of the USA population and estimated that the mean of the PSS in a sample of 645 males and females aged 18-29 years was (14.2, SD= 6.2). This suggests that the sample of young people who took part in this pilot study did not experience greater levels of stress than that predicted based on normative means. This contrasts with the mean scores reported in clinical samples as shown in Table 9. (Biegel et al., 2009) who examined adolescents attending a psychiatric facility, reported a mean PSS

score of (24.12, SD= 5.73) which was reduced to (19.46, SD= 6.01) following mindfulness intervention. Again, this indicates that adolescents who are seeking help for mental health conditions are much more stressed than the present sample. Even when these young patients are treated or exposed to a mindfulness intervention, their post treatment score of 19.46 is still a much higher score than the present sample. Despite our sample having a “normal” score on this scale, there was a slight movement to a lower score (from 14 to 12.2).

The study by Himelstein et al. (2012) investigated the feasibility of implementing a 10 week mindfulness based intervention with a group of incarcerated adolescents. The authors reported a PSS mean score of (21, SD= 5.5) which decreased to 18.7, SD= 6.8) following the Mind Body Awareness (MBA) programme, in agreement with their hypothesis of perceived stress significantly decreasing. There is also the indication that the incarcerated adolescents were more stressed than our sample, given the value of their pre-intervention PSS score of (21, SD= 5.5). Although after the intervention, the post score of the PSS went down significantly to 18.7 (SD= 6.8), it remains higher than that of this study's post intervention score (12.2, SD= 6.38), a further indication of the highly stressed situations in juvenile halls of incarceration.

The study of Napoli et al. (2005) on Mindfulness training for Elementary school students, demonstrated how vital it was for students to learn techniques for reducing stressful feelings. This is due to the increases in stress, depression and anxiety that are often caused by forces beyond the control of children, thus necessitating the instilling of the concept of wellness through a mindfulness programme as an essential part of school life. Results showed a statistically significant outcome for the Test Anxiety Scale (TAS) of ( $t_{diff} = -1.34$ ,  $p=0.007$ ), the Test of Everyday Attention for Children (TEA-Ch) a selective attention

subscale ( $t_{diff}=-7.94$ ,  $p<.001$ ), and the ADD-H Comprehensive Teacher Rating Scale (ACTeRS) an Attention Subscale ( $t_{diff}=-8.21$ ,  $p=.001$ ) indicating a decrease in test anxiety scores and an increase in selective attention scores.

The fact that young people in this study reported stress levels within the normal range may also explain the high drop-out rate as they may have considered that this intervention was not relevant to them. It is possible that young people had been managing their stress levels successfully through their participation in gym activities. Another alternative is that people already equipped with psychological or other environmental resilience factors are more likely to participate in a project such as Fight4Change.

Table 9: Comparison with other mindfulness studies that used the MAAS, PSS and RSES

Name of study	Drop-out	Sample	N	Pre MAAS-A Mean total Score (SD)	Post MAAS-A total Mean Score (SD)	Pre PSS Mean Score (SD)	Post PSS Mean Score (SD)	Pre RSES Mean Score (SD)	Post RSES Mean Score (SD)
Lau & Hue (2011) Preliminary outcomes of a Mindfulness-Based Programme for Hong Kong Adolescents in Schools: well-being, stress and depressive symptoms	11.1%	Healthy adolescents	48	59.25 (9.16)	62.88 (11.94)			-	-
Himelstein et al., (2012) Mindfulness training for self-regulation and stress with incarcerated youths: A pilot study	0%	Incarcerated adolescents	32	59.6 (15.6)	63 (9.6)	21 (5.5)	18.7 (6.8)		
Brown et al., (2011). "Assessing adolescent mindfulness: validation of an adapted Mindful Attention Awareness Scale in adolescent normative and psychiatric populations." <u>Psychological assessment</u> 23(4): 1023	28%	Adolescent psychiatric outpatients Study 2	10 2	3.31 (0.78)	3.76 (follow-up) (0.70)				
Van de Weijer-Bergsma et al. (2012) The Effectiveness of Mindfulness Training on Behavioural Problems and Attentional Functioning in Adolescents with ADHD	0%	Adolescents with ADHD Their mother Their father	10 10 9	59.7 (23.5) 55.7 (13.4) 64.3 (9.7)	61.7 (19.5) 60.3 (14.2) 61.9 (15.4)				
Biegel et al., (2009) Mindfulness- Based Stress Reduction (MBSR) for the Treatment of Adolescent Psychiatric Outpatients: A Randomized Clinical Trial	28%	Adolescent Outpatients with various psychiatric conditions	10 2			24.12 (5.73)	19.46 (6.01)	18.88	15.80
<b>Adults</b>									
Ree, M. J., & Craigie, M. A. (2007). Outcomes following mindfulness-based cognitive therapy (MBCT) in a heterogeneous sample of adult outpatients.	11.5%	Adult outpatients with various psychiatric conditions	26	49.14 (17.07)	54.57 (17.22)			23.98 (6.09)	28.13 (9.82)
Lee et al., (2006) Meaning-Making Intervention during breast or colorectal cancer treatment improves self- esteem, optimism and self-efficacy	8.1%	Adult cancer patients	74					17.60 (6.29)	15.49 (4.39)
<b>This study</b>	<b>50%</b>	<b>Adolescents</b>	<b>5</b>	<b>57.4 (8.99)</b>	<b>51.2 (18.54)</b>	<b>14 (3.67)</b>	<b>12.2 (6.38)</b>	<b>22.0 (3.0)</b>	<b>21.8 (3.90)</b>



## MAAS-A

The unexpected lower recorded score of the post intervention MAAS-A, of this small sample study, requires further investigation by reviewing other studies that employed the MAAS-A. Brown et al. (2011) reported scores on the MAAS-A for MBSR participants showing strongly significant improvements from pre-test to follow-up. ( $P < .001$ ;  $M$  (pre-test) = 3.31,  $SD$  = 0.78;  $M$  (follow-up) = 3.79,  $SD$  = 1.16), with no significant changes over time in MAAS-A scores among participants randomized to Treatment as usual (TAU). They suggested that MAAS-A scores were sensitive to the effects of mindfulness training. The study of Lau and Hue (2011) reported a pre score on MAAS of (59.25,  $SD$  = 15.6) and a post score of (62.88,  $SD$  = 11.94) indicating an increase in mindfulness.

Although the findings of the present study in relation to MAAS is not consistent with other studies, where there is normally a strong association between an increase in mindfulness and a decrease in depression and perceived stress after mindfulness training (Schoeberlein and Koffler, 2005; Thompson and Gauntlett-Gilbert, 2008), questions have been raised about the reliability and the validity of the MAAS (Lau and Hue, 2011). Generally speaking, the pre-intervention score of our sample is comparable to that reported in other studies of community samples. The lower score obtained on the MAAS-A after completion of the training in this study is puzzling (Figure 3). It is possible that the mindfulness training may have caused the participants to reflect more on their inner states in a more informed and accurate way of rating their own level of mindfulness. However, even though it went down, it was still within the range of the published literature and, in fact, nearer to the norms reported in adolescent males (Brown et al., 2011).

Grossman (2011) commented on the difficulties of self-reported mindfulness. He queried whether people were able to accurately rate their own levels of measures such as that of lapses of attention. One possibility is that following the training individuals were more accurately measuring lapses of attention, leading to a lower, more realistic score after the

training. Grossman's comments on the understanding of common mindfulness inventory phrases such as "being aware" or "paying attention" indicates that these may be subject to different semantic interpretation depending on whether respondents are experienced or inexperienced with mindfulness practice. A famous meditation teacher once stated in relation to mindfulness training that, the difference between the trained and untrained mind is the understood experience thus, training may mean that the mind making the self-report is different post training (KHEMA, 1989). His suggestion is supported by a study (de Bruin et al., 2011) in a Dutch sample of young people (age 11-17) where the researchers found that those young people with meditation experience scored lower on their Dutch version of the MAAS-A. The study was also considered whether the items on the MAAS-A and the questions in general were suitable for participants with a low academic status and ability since the questions demand a high level of reflection, verbal expression and agility.

The other criticisms of the MAAS and MAAS-A by Grossman (2011) included the query on whether assessing mindfulness can be achieved through self-reports where respondents' own desires for gains may lead to a bias of such self-reports. He questioned further whether mindfulness training alone could lead to a better understanding of the mindfulness construct, considering the lack of empirical evidence to support the validity of the mindfulness measures. He was insistent that none of these measures provide a clear and specific marker of mindfulness. He criticized the deficient amount of concern given to the central aspect of the content validity as that is a health related quality of life scale, and it did not include psychosocial domains but assessed only physical impairments. He further opined that mindfulness is a Buddhist tradition dictating that mindfulness cannot be easily extracted and analysed in isolation from inherently interrelated concepts cultivated from qualities of energy, tranquillity and equanimity (Nanamoli and Bohdi, 2001). However, as Christopher and Gilbert (Christopher and Gilbert, 2007) wrote, "Western psychology mandates that constructs must be explicated and operationalized to be assessed

accurately.” The shared variance between the MAAS and other measures is typically less than 25% and sometimes less than 10% and the convergent validity of the MAAS with other mindfulness measures is poor. He also criticized the selection of sample populations with which the scale was validated. The use of convenience samples of students and a general population with little or no experience with the mindfulness training or Buddhist practice is described as an unwise practice, impairing further the validity of the scale. With all the questions in the MAAS being formulated in the negative, a unique vulnerability of the scale ensues, such that each item requires reverse poling (Grossman, 2011).

Grossman criticized the reverse scoring items of the MAAS, the most commonly used scale that measures mindfulness. He argued that the complete reliance on negative formulated items, that are based on self-attributions of inattentiveness, could be considered as problematic like a participant responding to all items about his level of physical impairment with the lowest response (not at all). Such a response will not give an indication that the participant is fit even though he/she may not be physically impaired.

Research has also shown that expert meditators are able to prevent their minds from wandering by employing fewer cognitive resources to return their attention to the task at hand (Pagnoni et al., 2008). Findings such as these therefore present the self-report of absent mindedness as a conceptual conundrum. People’s accuracy in assessing the extent of their own inattentiveness depends on the influence of individual differences in psychological or other characteristics. Hence, it is plausible that the accurate instrument to assess lapses of attention may not be the MAAS which may actually be assessing how poorly participants may think they pay attention (Grossman and Van Dam, 2011).

Grossman remains the chief critic of the MAAS and advocates that Western psychologists take sufficient care with the novel concept of mindfulness, without which it serves as a block to the understanding of the Buddhist phenomenological approach. He bemoans the denaturing, distortion and banalisation of the term mindfulness which may further impair

the bridging of the fundamental differences between the Western and the Eastern approaches (Grossman, 2011).

Research has suggested that mind-wandering (akin to day dreaming) is more often linked with the lack of meta-awareness (or the awareness of one's awareness) (Schooler, 2002). Thus the question remains whether lapses of attention can be known, especially as cognitive neuroscience experiments reveal that individuals who experience wandering minds process very little of their external environment, thus lacking a reference for such states of lapsing attention (Smallwood et al., 2008). Therefore accurately estimating the amount of time spent in attentive states as some mindfulness questionnaires suggest (Brown and Ryan, 2003) is bound to be problematic. Other researchers (Carriere et al., 2008; Cheyne et al., 2006) opined that the scale may actually be more related to the propensity of participants to experience lapses of attention than to mindfulness and its possibly associated positive qualities. In addition, more current analyses add more weight to this assertion in the suggestion that it is the experience of general inattentiveness that the MAAS measures and not mindfulness (Van Dam et al., 2010).

Grossman's criticisms of the MAAS were mostly addressed by Brown et al. (2011). Foremost in their discussion was the established theory that attention (and secondarily meta-awareness) was the central feature of the MAAS and MAAS-A, and remained core to the meaning of mindfulness. They further argued that mindfulness was an inherent capacity varying from person to person and was not, as suggested by Grossman, an applicable concept for only the trained few. Mindfulness, they argued, associates with the same variety of outcomes as the mindfulness training theorises to achieve. They finally provided enough evidence to show that the MAAS and the MAAS-A were valid instruments of measure, accepting its inevitable imperfections in construct measurement and admitting such efforts to be critical in the accumulation of basic knowledge and the refinement of effective interventions.

The Five Facet Mindfulness Questionnaire (FFMQ) is an alternative scale to the MAAS-A (Baer et al., 2006). It is a 39-item scale for adults capturing all the aspects of mindfulness and thus provides more reliable data as opposed to the capture of a single facet of mindfulness by the MAAS-A. These other aspects of mindfulness captured by the FFMQ includes, observing, describing, acting with awareness, non-judging of inner experiences and non-reactivity to inner experience. The foremost of these facets is observing and involves noticing and attending to sensations of internal and external stimuli such as emotions, cognitions and the sense of sight, sound and smell. The next facet of describing entails putting into words, details of observed experiences. The facet of acting with awareness contrasts with being on automatic pilot such as being unaware of one's actions or behaving mechanically. The assumption of a non-evaluative stance towards cognition and emotions defines the next facet of non-judging of inner experiences. The last and fifth facet of the FFMQ, non-reactivity to inner experiences, depends on the tendency to allow thoughts and feelings to come and go freely without being caught up in them by way of engagement and action.

FFMQ compares to the MAAS under the broad considerations of internal consistency, validity and test re-test reliability. The FFMQ demonstrates adequate to excellent internal consistency (Cronbach's alpha ranging from 0.75-0.91) such that predictions in most cases are consistent with the relationships between the facet scales and other variables (Baer et al., 2006). The MAAS Internal consistency levels (Cronbach's alphas) generally range from 0.80 to 0.90 in undergraduate and general adult samples.

Considering validity as a basis for comparing the FFMQ to the MAAS, the five factor structure of the FFMQ is confirmed by confirmatory factor analyses (CFA) and its construct validity is supported by the findings of Baer's study. The MAAS demonstrates a high discriminant and convergent validity, known-groups validity and criterion validity (Brown and Ryan, 2003).

The other psychometric comparison of the scales is that of test-retest reliability where the Intraclass Correlation Coefficients are used as values for the test-retest reliability of the total FFMQ and the five facets. They are adequate to good ranging from 0.657 to 0.863 (Isenberg, 2009). The MAAS has demonstrated high test-retest reliability (Brown and Ryan, 2003). Currently, there is no adolescent version of the FFMQ scale but our results suggest that there is a need to standardize more instruments in young people particularly because mindfulness interventions are gaining in popularity in this age group.

## **RSES**

The RSES score remained unchanged; but there was a slight numerical difference between the pre-intervention (22.0, SD= 3.0) and the post-intervention mean score (21.8, SD= 3.90) (see Table 4)

## **5.5 Methodological shortcomings**

The study was encumbered with some methodological shortcomings including its pilot study status, the small sample size of participants, and the recruitment of more men than women. This was due to the fact that it was a boxing gym, there was a gender imbalance, and the recruitment area attracted mostly young men attending the gym. The gender imbalance is non-representative of the general population. There was no control group, and no random allocation of participants. Two participants joining the session ad hoc rather than being chosen and the absence of a pre questionnaire analysis for one participant, added to the various shortcomings in methodology. A check list and questionnaires regarding participants' reactions to different components of mindfulness activities was neither conducted nor incorporated into the qualitative feedback. This would have given vital information about the participants' understanding of mindfulness and is an essential inclusion for future studies in making the intervention more acceptable and feasible.

## **5.6 Study Limitations and Future Directions**

The study highlighted the importance of the venue in the successful engagement of young people from community settings. There were three implications. First, the lack of privacy and consistency in the setting where training was provided may have adversely impacted attendance after the first session. Secondly, young people attending a gym may be already engaged in activities that manage their stress successfully and therefore they are more likely to continue with what they know works for them instead of trying something new. Thirdly, perhaps because some young people who already manage their stress successfully may not perceive the need to participate in an activity that aims to reduce a problem (i.e., stress) they do not perceive they have. Therefore it may be preferable to offer young people “taster sessions” before the training and then focus only on those that perceive a potential benefit from continued training. The protocol for the recruitment of participants needs to be well established to avoid methodological shortcomings. A check list and questionnaires regarding participants’ reactions to different components of mindfulness activities also needs to be conducted and incorporated into the qualitative feedback.

The study also shows that the effect of mindfulness training on self-reported measures such as the MAAS-A is complex, and highlights the need for better debriefing in order to understand how young people may rate each item before and after training. Similarly, it would be desirable to standardize instruments to measure mindful awareness in this population with greater detail than that provided by the MAAS-A. In light of the high dropout rate, further studies might consider the inclusion of an explicit specific session as a group or individual interview. This is to explore and enhance the motivation of young people, which is important for the nonclinical participants given that MBSR protocol was

designed for adults with long standing chronic physical problems who presumably are in a more enhanced state of motivation to the intervention than the young people.

As discussed in the introduction, there are various ways of measurements and these add to the limitations of these studies. This study alongside with others have similar limitations including small sample size, inadequate comparators as well as lack of randomisation and lack of control group. These are features of an early stage protocol development or protocol adaptation for different population. This necessary step in the research project process means that the conclusion must be tentative. Results of other studies employing varying protocols and assessment measures have been encouraging, though no definitive conclusion can be drawn due to their limitations. More robust research is required due to a number of methodological and other limitations found in the majority of current studies. Future research should also focus on the most effective methods of delivery of mindfulness.

## **5.7 Conclusion**

In summary, community based mindfulness training for disadvantaged young people are feasible and acceptable but presents with multiple challenges. These challenges include the choice of venue and absence of help-seeking behaviour or motivation. Furthermore young people with normative levels of stress, self-esteem, and self-awareness may not necessarily benefit from mindfulness training.



## **Chapter six**

### **Development of the Study Specific Mindfulness Package**

The researcher developed a six week mindfulness package of six booklets as part of her Mphil project. There was no panel to decide about the activities and inclusion of the booklets. There were no pre-defined criteria for exclusion and inclusion of the package items. After consultation and discussion with her supervisors, it was agreed that all the core concept of mindfulness should be included in the package and the booklets were to be user friendly to make it clearer and more appealing to adolescents. This was before unmitigated circumstances led to changes to the project. The researcher could not carry on with her original planned research because of disruption to the supporting personnel in this research. One first supervisor left the department and as such the researcher was left with no clinical supervision. Her training needs were therefore not met, leaving her in a position of not being able to deliver the intervention as planned. Discussion with the second supervisor and Dr Russell led to the suggestion and agreement to use Dr Russell's five weeks intervention package and for her to carry out the training as well. The researcher was then to carry out the evaluation of the research, thereby ensuring the research delivery and evaluation were kept separate to enhance methodological rigor. Taking into consideration the amount of work involved in the preparation of these booklets, the researcher chose to incorporate them in the thesis and made recommendations for the booklets to be used in future studies with young people. (Appendix IV).

The material and information contained in this mindfulness package of booklets are compiled from an eight weeks training on Mindfulness using Body in Mind techniques by Dr Tamara Russell, founder of BMT which is a body based mindfulness training that allows individuals to become more in tune with bodily reactions and responses, increasing awareness and promoting mental and physical well-being. In addition, a 12-week, 12-

session online course on Stressed Teens Intensive Training provided further material. The latter was training on Mindfulness-Based Stress Reduction for Teens (MBSR-T) with Biegel, the creator of MBSR-T and Stressed Teens in 2004. This programme is closely related to the traditional MBSR programme created by Jon Kabat-Zinn and colleagues over 30 years ago. The outcome of the 12-week training included: (1) The demonstration of the increasing research and practice in the field of mindfulness with adolescents, (2) the full explanation of the purpose and necessity of introducing and using mindfulness with teens in today's society, (3) the exploration of the 8 week MBSR-T via experiential activities, with an intensive overview of curriculum skills, exercise and tools to utilize with teens.

The Mindfulness programme used in this instance had some adaptations to the MBSR-T of Biegel. These are: (1) the duration of the programme was reduced from 8 weeks to 6 weeks, (2) time taken for each session was reduced from 1.5 hours to 1 hour, (3) use of metaphors to make it more appealing to the adolescents, and (4) shorter exercise, body and movement based practices, and creative illustrated materials used.

The Mindfulness package is a stress reduction programme for adolescents, consisting of 6 booklets for 6 weeks respectively. Duration of the weekly sessions is an hour. Participants are given a booklet each week with an audio CD of mindfulness exercises for home practice. Adaptation was made to make the intervention more acceptable and to render the intervention more developmentally appropriate to young people. In view of the differences between adults and youths with respect to attentional, cognitive and interpersonal function, adaptations were effected to circumvent these differences.

## **6.1 Week 1 / Booklet 1**

Booklet 1 entails few simple activities that explain how stress can affect one's life. The absence of stress connotes a peaceful relaxed state of the mind as depicted in (Figure 4)

by the beach calm scene. By learning the few techniques in this booklet, participants may be able to manage their stresses better. About 70% of adolescents state that they are stressed about poor grades, difficulties with parents and peer pressure (Biegel, 2010) (Figure 5) highlights most of the issues that stress teens out. Stress is generally defined as a physical, emotional or mental strain or tension on the human body. Physical stress is manifested usually as aches and pains, headaches, dizziness, increased blood pressure, difficulty in breathing and sleeping. Emotional stress presents itself as nervousness, anxiety, depression and unhappiness. Preoccupation with negative thoughts may also bring about stress in individuals, affecting their ability to concentrate. Important life events could also bring about stress. One of the techniques in booklet 1 is to provide a labelled diagram of the human body and ask participants to colour the parts where they feel physical pain (Figure 6). This aims to promote their awareness of how stress can impact on different parts of the body. Next participants are asked to identify what things were stressing them out using simple open ended questions.

Participants are next introduced to the notion that thoughts and feelings interact to reinforce each other. For example, positive thoughts are more likely to lead to positive feelings while negative thoughts may increase negative feelings. Participants are also introduced to the notion that an initial positive or negative reaction to an event or situation attracts similar thoughts. Negative thoughts may thus spiral into further negativity and an increase in feelings of stress. Booklet 1 provides examples explaining the process. Subsequent exercises aim to show participants how to identify negative thoughts and how to let them go rather than focus on them. Participants are then asked to briefly describe an occasion where an initial negative thought attracted further negative thoughts and then define associated feelings.

The next concept focused on the link between the mind, the body and stress levels. Participants are given a labelled diagram of the human body ( Figure 6) and were asked to

colour the body parts on the diagram that correspond to parts of their body where they feel physical discomfort as a consequence of stress (Figure 7). These bodily sensations and physical signs often go unnoticeable but in this exercise they are used to warn of the need to take remedial action to reduce and manage the stress.

### **6.1.1 Week 2 / Booklet 2**

Participants are briefly introduced to the basic concepts of Mindfulness. Figure 8 is an illustration of a soothing environment of the beach that may bring about calmness while practising mindfulness. Mindfulness is presented as a mental exercise that helps focus their mind on the present moment using their body and breathing. Booklet 2 explains the six key concepts of Mindfulness which include, pause, take a good look, paying full attention, to act on purpose or intentionally, to notice, observe and describe all thoughts that come to mind during the practice, to be non- judgemental, to act with full awareness without reaction and to “watch” thoughts, emotions and sensations ( Figure 10). An analogy of the anchor of the boat is used to better illustrate how the mind could drift away during mindfulness and how it was important to refocus attention on the body and breath, which thus serves as the anchor metaphorically (Figure 9).

Participants are next introduced to the “Raisin Exercise” which is a meditation activity conducted in every first session of mindfulness training, after participants have been introduced to each other. It involves participants receiving a raisin each and being guided to observe it carefully as if it was a totally new stimulus. With guidance they are encouraged to observe all aspects of the raisin, its texture, size, smell, colour, shape and how it feels between two fingers. Next, begin eating it, while they are instructed to notice, the bodily movements that accompany the act of eating the raisin. Participants are also encouraged to make notes of any thoughts they may have during this exercise without being judgmental. This raisin exercise provides an opportunity for participants to engage mindfully in an activity that would otherwise be considered “automatic” (Figure 11).

Participants are asked to repeat the raisin exercise with a friend and to share their experiences at the next session. Table 5 is for participants to record their experiences.

As the next technique is the mindfulness abdominal breathing exercises, participants are encouraged to sit straight on a chair with their palms resting on their thighs and their eyes closed or looking down. The exercise lasts 5-6 minutes. Participants are trained to focus on their breathing and prevent their mind from wandering off to other thoughts. A typical calendar is provided in table 4.

Participants are next directed to note but not focus or react to thoughts or environmental distractions that occur during this exercise. They then redirect their attention to their breathing which serves as a mindfulness anchor. At the end of the exercise, participants provide feedback and share their experiences with the therapist and /or other members of the group.

### **6.1.2 Week 3 / Booklet 3**

Booklet 3 provides further detail on the 6 key concepts of mindfulness that fall into 3 groups: Intention, Attention and Attitude (IAA) (Figure 13). Intention refers to the conscious decision to focus on the present moment. Attention refers to the act of focusing attention on the present, by taking notice of all distractions of emotions, environment or physical sensations. Attitude refers to the conscious mental position of releasing any judgement while observing one's thoughts, feelings, bodily sensations or distractions in the environment.

Participants were then introduced to the Body scan exercise which requires participants to pay particular attention in a systematic manner, to various parts of their bodies in the present moment. It involves participants lying down flat on their backs or sitting on a chair with their eyes preferably closed (Figures 12, 14 and 15). They are then guided to bring

their attention to various parts of the body in a sequential fashion beginning with the toes of the left foot and moving gradually up the leg, and then the toes of the right foot, also gradually moving up the leg. Attention is then shifted on to the torso, arms neck and head, in that order. During this process, participants are asked to notice bodily sensations, thoughts and emotions or distractions from the environment but to refocus on the body scan exercise, without making any judgments on the situations. They are also given a labelled diagram of the human body to remind them of the areas where they may experience tension during the exercise (Figure 16). Participants are encouraged to practice with a guided body scan exercise at home and are provided with an audio CD for this purpose. Table 6 provides participants the means to record their body scan observation.

#### **6.1.3 Week 4 / Booklet 4**

Participants are introduced to the notion that when one's mind is pre-occupied with thoughts and emotions of the past, present and future (Figure 17), it is often difficult to concentrate and make meaningful effective decisions. The puppy analogy is used to further illustrate how the mind may wander off and how to bring it back with a kind attitude (Figures 18, 19).

Other useful analogies are the beach analogy (Figure 20), helping participants to observe their emotions as if from a distance; the party analogy, with a party in session and good friends invited, one may stress on uninvited bad friends "gate crashers". The mindful analogy will be to take note of all coming in, with a non-judgmental attitude and return sustained attention to re-focus on the progress of the party itself, not concentrating on the bad non- invitees (bad thoughts) or the good friends invited (good thoughts). Similarly, whenever a mindful exercise is being practiced, good and bad thoughts will come into the mind and it is necessary to notice them but to let them go, returning all attention to the exercise itself (Figure 21).

Participants are next encouraged to engage in Abdominal Breathing, Body Scan and Change of Habit Exercise throughout a week (see table 7), focussing on the Change of Habit Exercise which involves them changing their regular daily routines or habits and making an observation on how they felt during this change. This helps participants realise how many daily activities are performed on “automatic-pilot” without paying due attention.

#### **6.1.4 Week 5 / Booklet 5**

Participants are introduced to an exercise termed “Check in with the body”. Here, they are required to bring all their attention solely on the body. The exercise can be carried out anywhere, anytime in an informal manner during any stressful situation (Figure 22). They are to take notice of any bodily sensations and feelings, locating where these feelings are manifesting on the body by way of stiffness or pain or tightness. Participants are then advised to anchor their experience on their body and to acknowledge any thoughts or feelings in a non-judgmental way. Table 8 is provided for participants to record their observations on the abdominal breathing exercise, body scan and check in with the body.

#### **6.1.5 Week 6 / Booklet 6**

The peaceful and serene effect of Figure 23 illustrates calmness in a stress reduced environment. A lady in a dark tunnel with light at the end of it ( Figure 24) illustrates that continuous practice of Mindfulness will lead her out of the tunnel as illustrated in Figure 25, therefore enhancing her quality of life. Words that could be used in the practice of Mindfulness are illustrated in Figure 26. Young people can cope with stressful situations at work, school and home by continuous practice of Mindfulness and these are illustrated in Figures 27 and 28. This final week involves going over the activities of the preceding five weeks. Participants are encouraged to create their own mindfulness exercise, a sample list of which is given in Booklet 6. Participants would be asked to write a letter to themselves in which are set goals they wish to accomplish with the practice of Mindfulness (Figure 29). They are then asked to seal the envelope containing the letter and re-open it after 3

months to compare their present state of mindfulness to that of 3 months ago. All participants would be congratulated for participating in the mindfulness training (Figure 30).

## **6.2 Conclusion of the Mindfulness package**

Participants would have been given a Star Rating and a Certificate of Attendance and would have been requested to fill in a feedback form.



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## **Appendix I**

### **INFORMATION SHEET FOR PARENTS OF PARTICIPANTS**

REC Reference Number: **PNM/12/13-146**

#### **YOU WILL BE GIVEN A COPY OF THIS INFORMATION SHEET**

##### **A pilot feasibility study of mindfulness training for adolescents**

We would like to invite your child to participate in this research for a PhD at Kings College London. Your child should only participate if they wish to; choosing not to take part will not disadvantage your child in any way. Before you decide whether you want your child to take part, it is important for you both to understand why the research is being done and what participation will involve. Please take time to read the following information carefully and discuss it with others if you wish. Ask us if there is anything that is not clear or if you would like more information. There is a Checklist on the following pages that you should go through with your child.

**Why are we asking your child to take part?** We are asking your child to take part in this study because it is hoped that through learning about and practicing mindfulness (a type of brain training that has been shown to help people deal better with emotions), your child will learn new skills that may help them face life's challenges with more confidence. Mindfulness training has been shown to help both adults and young people become better at dealing with stress and improve their relationships.

**What is the aim of the study?** The aim of the study is to investigate whether a particular short mindfulness training programme called Body and Mind Training can help young people cope better with stressful situations, improve confidence and pay attention.

**Who are we recruiting?** We are recruiting adolescents over 14 years old who are part of the Fight4Change Academy.

**Exclusion Criteria** Non fluent English-speaking participants will not be able to take part as participants will need to understand and respond to the verbal teaching and materials.

**What are we asking your child to do?** Your child will attend Body In Mind Training sessions over 5 weeks for 90 minutes at the Fight4Change Academy Gym, Lillian Byalis Old School Lollard Street, SE11 6PY. Before they start the training, Ruma Luckeenarain (The Researcher) will send questionnaire measures to your child via post. Your child will be asked to complete these three short questionnaires assessing everyday attention abilities, self-esteem and how they cope with stress before the first training session. If your child needs help to complete the questionnaires we can provide support before the first session. Your child will need to return the questionnaires using the stamped addressed envelope we provide or give them to Dr Tamara Russell (the Trainer) before the first session starts. Dr Tamara Russell (Trainer) will then run the five weeks of Body In Mind Training. After the training, your child will be asked to complete the same questionnaires at the end of the last session.

During the training your child will learn to train their brain and become more aware of their mental and physical experiences through bodily exercises such as paying attention to the breath and the moving body, talking about their experiences and some direct teaching on emotions, stress and how we relate to each other.

Your child will be given a user-friendly mindfulness booklet with illustrations and space for their personal reflections so that they can practice some of the exercises in their own time.

**Do I have to fill in a feedback form at the end of the study?**

At the end of the training we also ask all parents and their child to fill in a feedback form as we highly value your opinion and your child's opinion, and comments on the training if you have any suggestions on how we can improve the training. You will be informed about the results of the study if you wish to know.

**Does my child have to take part in this research?** It is entirely voluntary and it is up to your child if they wish to decide to join the study. The Trainer (Dr Tamara Russell) will describe the study and go through this information sheet during the information session at the Time4Change Academy. If your child wishes to take part, the Trainer will give your child the attached consent form to bring home to discuss with you before signing. Your child is free to withdraw from the research aspect of the study at any time without giving a reason and this does not affect their participation in the group. They are also free to withdraw from the group without given any reason and this does not affect any input they are receiving from Fight4Change Academy.

**Will there be any benefit from this study for your child?** Having participating in this study, your child will learn mindfulness stress reduction techniques which may help them to deal with stressful situations more effectively and we hope that this training may improve their confidence and the quality of their relationships. The results of this study may help professionals to understand better how mindfulness training can help young people. Your child will receive a certificate of attendance for participating in the Body In Mind Training. Participants will receive the training for free. They will not otherwise be reimbursed. To support individuals to attend all sessions, there will be a lottery draw for a prize of £25 in Amazon vouchers for those participants who have attended all five sessions.

**Who is funding this research?** This research is self-funded but supported by King's College London.

**Are the travelling expenses covered?** There are no travelling expenses for the study.

If this study has harmed you in any way, there will be a No Fault Compensation Scheme available to participants. The contact point for this scheme is the Academic Supervisor (Professor Veena Kumari).

You can email her on [veena.kumari@kcl.ac.uk](mailto:veena.kumari@kcl.ac.uk)

**Are there any risks?** The study does not carry any risk. In the unlikely event that a young person discloses information in the group or to the Trainer or Researcher that indicates that they are at risk of harm to themselves or others Dr Russell will encourage the young person to speak to the Fight4Change Director Rebecca Donnelley who will take appropriate action.

**Confidentiality** All information obtained by the Researcher (Ruma Luckeenarain) is completely confidential. The data will be stored in the office of the primary supervisor on the 7<sup>th</sup> floor of the Institute of Psychiatry, King's College London in an area protected by swipe card access. When the student leaves the College the data will be held for four years in KCL secure archives and then destroyed by shredding the paperwork. The Researcher will abide by the Guidance on NHS code of practice on confidentiality.

**By when do I need to decide whether I need to participate in the study?** We would like to know by May 31<sup>st</sup> 2013 if your child would like to participate in the study.

It is up to your child to decide whether to take part or not. If your child decides to take part they are still free to withdraw from the study at any time and without giving a reason.

For those participants who have either withdrawn or were excluded, all data will be removed from the study. If after your participation, you no longer wish your already collected data to be included in the publication of this study, you are free to withdraw your data at any time up until the time of writing up of the results of publication, expected date is by July the 31st 2013.

The study has been reviewed by the Psychiatry, Nursing and Midwifery (PNM) Research Ethics Subcommittee (RESC) AT King's College London

If you have any questions or require more information about this study, please contact the researcher using the following contact details:

Ruma Luckeenarain,

Researcher

IOP BOX 66

De Crespigny Park, London

SE5 8AF

Email: [ruma.luckeenarain@kcl.ac.uk](mailto:ruma.luckeenarain@kcl.ac.uk)

If this study has harmed you in any way, you can contact King's College London using the details below for further advice and information:

Professor Veena Kumari

King's College London, Institute of Psychiatry

Department of Psychosis Studies,

Box PO 78

London SE5 8AF

Email: [veena.kumari@kcl.ac.uk](mailto:veena.kumari@kcl.ac.uk)

**Informed Consent Check List for young people and their caregiver**

**Study Title:** A pilot feasibility study of mindfulness training for adolescents

**Ethics Reference Number:** PNM/12/13-146)

Please check with your child that they have understood the following will be expected of them during the Body In Mind Training study and circle their answer:

1. You will be asked to provide a small amount of personal information about yourself to the research team (name and age)

I understand: YES NO

2. You will be asked to complete three questionnaires before you start the training (you can ask an adult from the research team to help you with this if needed)

I understand: YES NO

3. You will be asked to attend 5 sessions of Body in Mind Training which lasts 90 minutes and will be held at the Time4Change Academy Gym

I understand: YES NO

4. After the training you will be asked to complete the three questionnaires again (you can ask an adult from the research team to help you with this if needed)

I understand: YES NO

5. All the information collected about me is confidential and no one will know that these answers are from me except for the researcher.

I understand: YES NO

6. If I want to drop out of the research at any time I can and this will not affect my attendance at Fight4Change

I understand: YES NO

7. If I want to drop out of the Body In Mind Training at any time I can and this will not affect my attendance at Fight4Change

I understand: YES NO

8. For Caregivers – I will be asked to complete a feedback form asking me a few questions about my child at the end of the training period

I understand YES NO

Name of Young Person:

Signature:

Date:

Name of Parent:

Signature of Parent:

Date:

Name of Researcher:

Signature of Researcher:

Date:

## CONSENT FORM FOR PARENTS OF PARTICIPANTS IN RESEARCH STUDIES



Please complete this form after you have read the Information Sheet and/or listened to an explanation about the research.

Title of Study: A pilot feasibility study of mindfulness training for adolescents

King's College Research Ethics Committee Ref: PNM/12/13-146)

Thank you for considering taking part in this research. The person organising the research must explain the project to you before you agree to take part. If you have any questions arising from the Information Sheet or explanation already given to you, please ask the researcher before you decide whether to join in. You will be given a copy of this Consent Form to keep and refer to at any time.

### **Please tick or initial**

I understand that if I decide at any time during the research that I no longer wish my child to participate in this project, I can notify the researchers involved and withdraw him/her from it immediately without giving any reason. Furthermore, I also understand that I will be able to withdraw my child's data up to the point of publication at any time up until the time of writing up of the results for publication, expected date is by July the 31<sup>st</sup> 2013.

- I consent to use my own data as well as that of my child's personal information for the purposes explained to me.

Yes	No
<input type="checkbox"/>	<input type="checkbox"/>

- I understand that confidentiality and anonymity will be maintained and it will not be possible to identify my child in any publications

Yes	No
<input type="checkbox"/>	<input type="checkbox"/>



- I understand that my child must be fluent in English

Yes	No

REC Reference Number: PNM/12/13-146

Parent's Statement:

I (INSERT NAME) \_\_\_\_\_ of (INSERT ADDRESS) \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

I agree that the research project named above has been explained to me to my satisfaction and I agree for my child to take part in the study. I have read both the notes written above and the Information Sheet about the project, and understand what the research study involves and have gone through the checklist with my child.

Signed

Date

Visiting Lecturer's Statement:

I \_\_\_\_\_

Confirm that I have carefully explained the nature, demands and any foreseeable risks (where applicable) of the proposed research to the participant.

Signed

Date

## **INFORMATION SHEET FOR PARTICIPANTS (over 16 years old)**

REC Reference Number: **PNM/12/13-146**

### **YOU WILL BE GIVEN A COPY OF THIS INFORMATION SHEET**

#### **A pilot feasibility study of mindfulness training for adolescents**

We would like to invite you to participate in this research for a PHD at Kings College London. You should only participate if you wish to; choosing not to take part will not disadvantage you in any way. Before you decide whether you want to take part, it is important for you to understand why the research is being done and what participation will involve. Please take time to read the following information carefully and discuss it with others if you wish. Ask us if there is anything that is not clear or if you would like more information. There is a Checklist on the following pages that you should go through to ensure you fully understand.

**Why are we asking you to take part?** We are asking you to take part in this study because it is hoped that through learning about and practicing mindfulness (a type of brain training that has been shown to help people deal better with emotions) you will learn new skills that may help you face life's challenges with more confidence. Mindfulness training has been shown to help both adults and young people become better at dealing with stress and improve their relationships.

**What is the aim of the study?** The aim of the study is to investigate whether a particular short mindfulness training programme called Body and Mind Training can help young people cope better with stressful situations, improve confidence and pay attention.

**Who are we recruiting?** We are recruiting adolescents over 14 years old who are part of the Fight4Change Academy.

**Exclusion Criteria** Non fluent English-speaking participants will not be able to take part as participants will need to understand and respond to the verbal teaching and materials.

**What are we asking you to do?** You will attend Body In Mind Training sessions over 5 weeks for 90 minutes at the Fight4Change Academy Gym, Lillian Byalis Old School Lollard Street, SE11 6PY. Before you start the training, Ruma Luckeenarain (The Researcher) will send questionnaire measures to you via the post. You will be asked to complete these three short questionnaires assessing everyday attention abilities, self-esteem and how you cope with stress before the first training session. If you need help to complete the questionnaires we can provide support before the first session. You will need to return the questionnaires using the stamped addressed envelope we provide or give them to Dr Tamara Russell (the Trainer) before the first session starts. Dr Tamara Russell (Trainer) will then run the five weeks of Body In Mind Training. After the training, you will be asked to complete the same questionnaires at the end of the last session.

During the training you will learn to train your brain and become more aware of your mental and physical experiences through bodily exercises such as paying attention to the breath and the moving body, talking about their experiences and some direct teaching on emotions, stress and how we relate to each other.

You will be given a user-friendly mindfulness booklet with illustrations and space for your personal reflections so that they can practice some of the exercises in their own time.

At the end of the training we also ask you to fill in a feedback form as we highly value your opinion and your comments on the training and if you have any suggestions on how we can improve the training. You will be informed about the results of the study if you wish to know.

**Do I have to take part in this research?** It is entirely voluntary and it is up to you if you wish to decide to join the study. The Trainer (Dr Tamara Russell) will describe the study

and go through this information sheet during the information session at the Time4Change Academy. If you wish to take part, the Trainer will give you the attached consent form to discuss before signing. You are free to withdraw from the research aspect of the study at any time without giving a reason and this does not affect your participation in the group. You are also free to withdraw from the group without giving any reason and this does not affect any input you are receiving from Fight4Change Academy.

**Will there be any benefit from this study?** Participating in this study, you will learn mindfulness stress reduction techniques which may help you to deal with stressful situations more effectively and we hope that this training may improve your confidence and the quality of your relationships. The results of this study may help professionals to understand better how mindfulness training can help young people. You will receive a certificate of attendance for participating in the Body In Mind Training. You will receive the training for free. You will not otherwise be reimbursed. To support individuals to attend all sessions, there will be a lottery draw for a prize of £25 in Amazon vouchers for those participants who have attended all five sessions.

**Who is funding this research?** This research is self-funded but supported by King's College London.

**Are the travelling expenses covered?** There are no travelling expenses for the study.

If this study has harmed you in any way, there will be a No Fault Compensation Scheme available to participants. The contact point for this scheme is the Academic Supervisor (Professor Veena Kumari).

You can email her on [veena.kumari@kcl.ac.uk](mailto:veena.kumari@kcl.ac.uk)

**Are there any risks?** The study does not carry any risk. In the unlikely event that you disclose information in the group or to the Trainer or Researcher that indicates you are at risk of harm to themselves or others Dr Russell will encourage you to speak to the Fight4Change Director Rebecca Donnelley who will take appropriate action.

**Confidentiality** All information obtained by the Researcher (Ruma Luckeenarain) is completely confidential. The data will be stored in the office of the primary supervisor on the 7<sup>th</sup> floor of the Institute of Psychiatry, King's College London in an area protected by swipe card access. When the student leaves the College the data will be held for four years in KCL secure archives and then destroyed by shredding the paperwork. The Researcher will abide by the Guidance on the NHS code of practice on confidentiality.

**By when do I need to decide whether I need to participate in the study?** We would like to know within two weeks after receiving this letter whether you would like to participate in the study.

It is up to you to decide whether to take part or not. If you decide to take part you are still free to withdraw from the study at any time and without giving a reason.

For those participants who have either withdrawn or were excluded, all data will be removed from the study and if after your participation, you no longer wish your already collected data to be included in the publication of this study you are free to withdraw your data at any time up until the time of writing up of the results for publication by July 31st 2013...

If you have any questions or require more information about this study, please contact the researcher using the following contact details:

Ruma Luckeenarain,  
Researcher  
IOP BOX 66  
De Crespigny Park, London  
SE5 8AF

Email: [ruma.luckeenarain@kcl.ac.uk](mailto:ruma.luckeenarain@kcl.ac.uk) if this study has harmed you in any way, you can contact King's College London using the details below for further advice and information:

Professor Veena Kumari  
King's College London, Institute of Psychiatry  
Department of Psychosis Studies,  
Box PO 78  
De Crespigny Park, Denmark Hill,  
London SE5 8AF                      Email: [veena.kumari@kcl.ac.uk](mailto:veena.kumari@kcl.ac.uk)

## CONSENT FORM FOR PARTICIPANTS IN RESEARCH STUDIES OVER 16 YEARS OLD

Please complete this form after you have read the Information Sheet and/or listened to an explanation about the research.



Title of Study: A pilot feasibility study of mindfulness training for adolescents

King's College Research Ethics Committee Ref: PNM/12/13-146

Thank you for considering taking part in this research. The person organising the research must explain the project to you before you agree to take part. If you have any questions arising from the Information Sheet or explanation already given to you, please ask the researcher before you decide whether to join in. You will be given a copy of this Consent Form to keep and refer to at any time.

**Please tick or initial**

I understand that if I decide at any time during the research that I no longer wish to participate in this project, I can notify the researchers involved and withdraw from it immediately without giving any reason. Furthermore, I understand that I am free to withdraw my data up to the point of publication at any time up until the time of writing up of the results for publication, expected date is by July 31st 2013.

☐

- I consent to the processing of my personal information for the purposes explained to me. I understand that such information will be handled in accordance with the terms of the UK Data Protection Act 1998.

☐

- I understand that confidentiality and anonymity will be maintained and it will not be possible to identify me in any publications.

Yes	No
<input type="checkbox"/>	<input type="checkbox"/>

- I understand that I must be fluent in English.

Yes	No

REC Reference Number: PNM/12/13-146

Participant's Statement:

I (INSERT NAME) \_\_\_\_\_ of (INSERT ADDRESS) \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

I agree that the research project named above has been explained to me to my satisfaction and I agree to take part in the study. I have read both the notes written above and the Information Sheet about the project, and understand what the research study involves and have gone through the checklist.

Signed

Date

Visiting Lecturer's Statement:

I \_\_\_\_\_

Confirm that I have carefully explained the nature, demands and any foreseeable risks (where applicable) of the proposed research to the participant.

Signed

Date



## Appendix II

### Mindful Awareness and Attention Scale for Adolescents (MAAS-A)

#### Day-to-Day Experiences

Instructions: Below is a collection of statements about your everyday experience. Using the 1-6 scale below, please indicate how frequently or infrequently you currently have each experience. Please answer according to what really reflects your experience rather than what you think your experience should be. Please treat each item separately from every other item.

1	2	3	4	5	6
Almost Always	Very Frequently	Somewhat Frequently	Somewhat Infrequently	Very Infrequently	Almost Never

1	I could be experiencing some emotion and not be conscious of it until some time later.	1	2	3	4	5	6
2	I break or spill things because of carelessness, not paying attention, or thinking of something else.						
3	I find it difficult to stay focused on what's happening in the present.						
4	I tend to walk quickly to get where I'm going without paying attention to what I experience along the way.						
5	I tend not to notice feelings of physical tension or discomfort until they really grab my attention.						
6	I forget a person's name almost as soon as I've been told it for the first time.						
7	It seems I am "running on automatic," without much awareness of what I'm doing.						

8	I rush through activities without being really attentive to them.						
9	I get so focused on the goal I want to achieve that I lose touch with what I'm doing right now to get there.						
10	I do jobs or tasks automatically, without being aware of what I'm doing.						
11	I do jobs or tasks automatically, without being aware of what I'm doing.						

1  
Almost  
Always

2  
Very  
Frequently

3  
Somewhat  
Frequently

4  
Somewhat  
Infrequently

5  
Very  
Infrequently

6  
Almost  
Never

1	I find myself preoccupied with the future or the past.	1	2	3	4	5	6
2	I find myself doing things without paying attention	1	2	3	4	5	6
3	I snack without being aware that I'm eating.						

## Perceived Stress Scale (PSS)

**Instructions:** The questions in this scale ask you about your feelings and thoughts during the last month. In each case, you will be asked to indicate by circling how often you felt or thought a certain way. (Response values: 0 = never, 1 = almost never, 2 = sometimes, 3 = fairly often, 4 = very often).

0	1	2	3	4
Never	Almost Never	Sometimes	Fairly Often	Very Often

In the last month, how often have you:						
		0	1	2	3	4
1	Been upset because of something that happened unexpectedly?					
2	Felt that you were unable to control the important things in your life?					
3	Felt nervous and stressed?					
4	Felt confident about your ability to handle your personal problems?					
5	Felt that things were going your way?					
6	Found that you could not cope with all the things that you had to do?					
7	Been able to control irritations in your life?					
8	Felt that you were on top of things?					
9	Been angered because of things that were outside of your control?					
10	Felt difficulties were piling up so high that you could not overcome them?					

## The Rosenberg Self Esteem Scale

This scale is a ten item Likert scale with items to be answered on a four point scale - from strongly agree, agree, and disagree to strongly disagree. The original sample for which the scale was developed consisted of 5,024 High School Juniors and seniors from 10 randomly selected schools in New York State rendering it suitable for adolescents.

Test-retest Reliability – Correlations range from 0.82 to 0.88. Internal Consistency - Cronbach's alpha range from 0.77 to 0.88. Items on the scale relate to thinking about the last month, illustrated in Figure 31.

### Rosenberg's Self-Esteem Scale

Instructions: Thinking about the **last month**. Please read the following statements and indicate by ticking the box which response applies to you.

STATEMENT		Strongly Agree	Agree	Disagree	Strongly Disagree
1	On the whole, I am satisfied with myself.				
2	At times I think I am no good at all.				
3	I feel that I have a number of good qualities.				
4	I am able to do things as well as most other people.				
5	I feel I do not have much to be proud of.				
6	I certainly feel useless at times.				
7	I feel that I am a person of worth, at least on an equal plane with others.				
8	I wish I could have more respect for myself.				
9	All in all, I am inclined to feel that I am a failure.				
10	I take a positive attitude toward myself.				

Appendix III



# Body In Mind Training

Tamara Russell

Fight4Change Academy,  
London

June/July 2013



Is your mind right  
now?

## WELCOME

Welcome to Body in Mind Training (BMT)<sup>©</sup>. You are warmly invited to these five sessions of BMT where we will be exploring together the application of mindfulness of the body. The intention of this training is to raise awareness of all the rich material that the body provides us with to guide us in our relationships with ourselves and each other. The training is based on the definition of mindfulness provided by Jon Kabat-Zinn – mindfulness being “the awareness that arises as a result of paying attention, on purpose, in the present moment, non-judgementally”. Five core themes are explored in this training i) Slowing Down, ii) Intention, iii) Attention, iv) Scientific Observation and (v) Loving Kindness. We will explore these themes through the body, using physical exercises and mental training designed to illustrate key learning points. We will also explore them from the perspective of neuroscience and the link between body and mind. Between sessions, you will be encouraged to try out different experiments to continue the development of body awareness and its benefits in your daily life. A consistent theme at the heart of everything you will learn is the awareness of movement in stillness and stillness in movement.

If at any time you have questions about the training please do not hesitate to ask. It is preferable for you to raise questions in the group (as it is highly likely someone else also has the same question) but if you prefer to ask something in private, please email or call Tamara to arrange a time to chat (Tamara.Russell@kcl.ac.uk).

**Some information about Logistics****Training Dates and Times:**

All Classes run from 5.30 – 7pm on the following dates:

Monday June 17<sup>th</sup>

Monday June 24<sup>th</sup>

Monday July 1<sup>st</sup>

Monday July 8<sup>th</sup>

Monday July 15<sup>th</sup>

**What if I am late?**

Please try to arrive at 5.15 so that we can start promptly at 5.30PM.

If you are late, please enter into the room mindful that we may be practicing and join in.

**What if I need to leave early or leave the session for any reason?**

This is not ideal but also not a problem. Please leave mindful of the other participants.

**What if I need to miss a session?**

Please inform the facilitator if you need to miss a session so we do not wait for you to arrive.

You can text or call Rufus 07984102804 or email Tamara.Russell@kcl.ac.uk

You will be provided with an electronic copy of the session notes to add to your booklet and Tamara can provide a brief catch up on the phone if necessary.

**Other things**

You are welcome to bring any drinks or snacks you might require throughout the session.

It is advised to use the toilet before class commences.

It is advised to wear clothes that are loose fitting and comfortable.

Course Motto

# COURAGE

(to do something radically different with your  
mind)

&

# CURIOSITY

(to examine what is really there)

&

# COMPASSION

(towards whatever you find)



**Session One:      Slowing Down, Pause, STOP**



**Exercise: Right Here, Right Now**

What did you notice?

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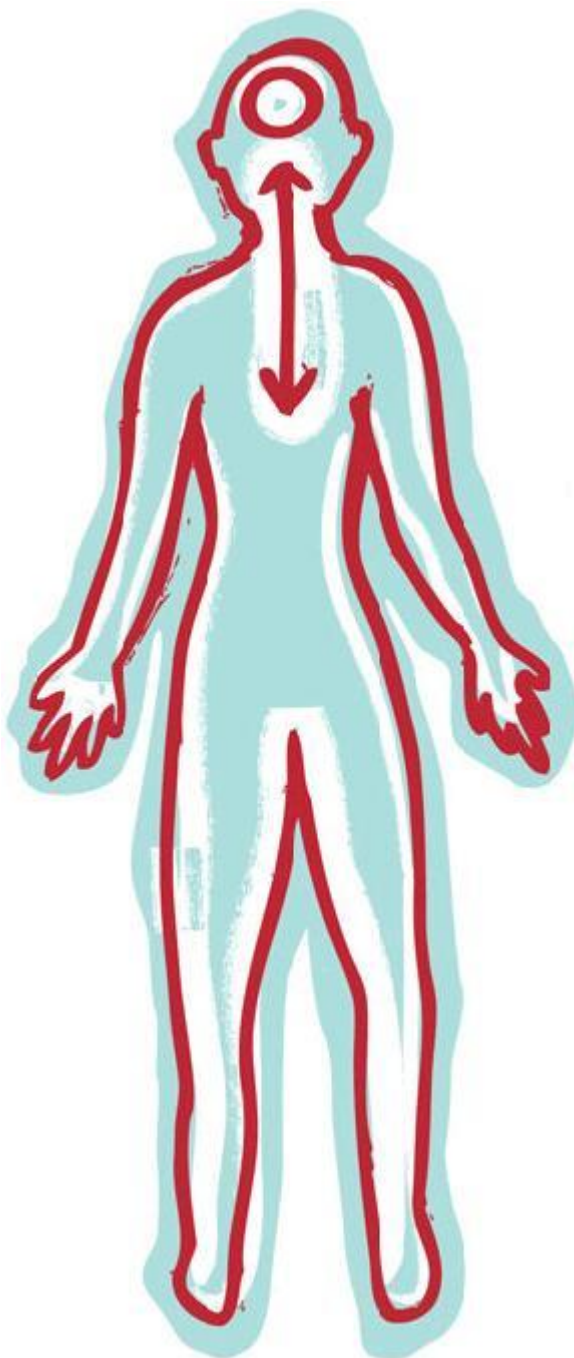
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## Body in Mind

## Mind in Body

What aspects of the body can you bring into awareness when you pause, slow down, stop?



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**More Info: Interesting authors in the area called Embodied Cognitive Neuroscience:**

Evan Thompson

Francesco Varela

Maurice Merleau-Ponty

## **The Brain and Slowing Down**

**2% of body weight**

**20% of energy consumption**

### **WHAT IS MY BRAIN DOING?**

## **Balancing EXCITATION and INHIBITION**

### **Inhibition – putting the brakes on....**

- 1) Stopping an automatic response - e.g.: following a gaze
- 2) Filtering out information not needed for the task – getting what's relevant
- 3) Discarding and inhibiting information that was previously relevant but no longer needed - dropping what's no longer useful

### **Motor Level**

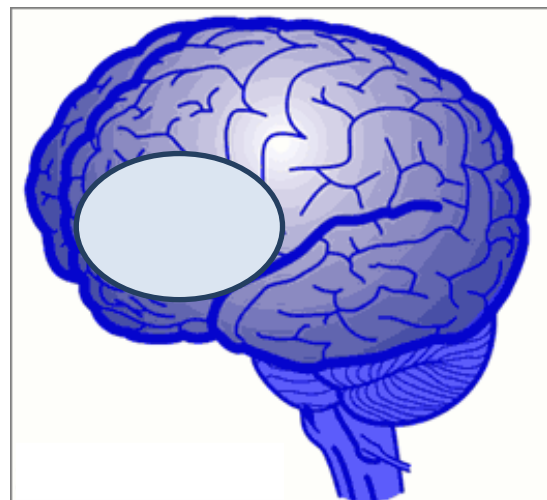
### **Cognitive Level**

### **Emotional Level**

Right Ventrolateral Pre Frontal

Cortex

- A key role in inhibition
- Across domains



**Inhibition in real life?**

Can you think of a time when you pressed forward and it would have been better to stop?

What were the factors that kept you going (or meant you couldn't stop)?

Are there things that you do which are no longer rewarding that you still do (over and over again)?

Are there ever thoughts in your mind which are so powerful they “hook” you and you can't get them out of your mind?

**Exercise: How does the mind move?**

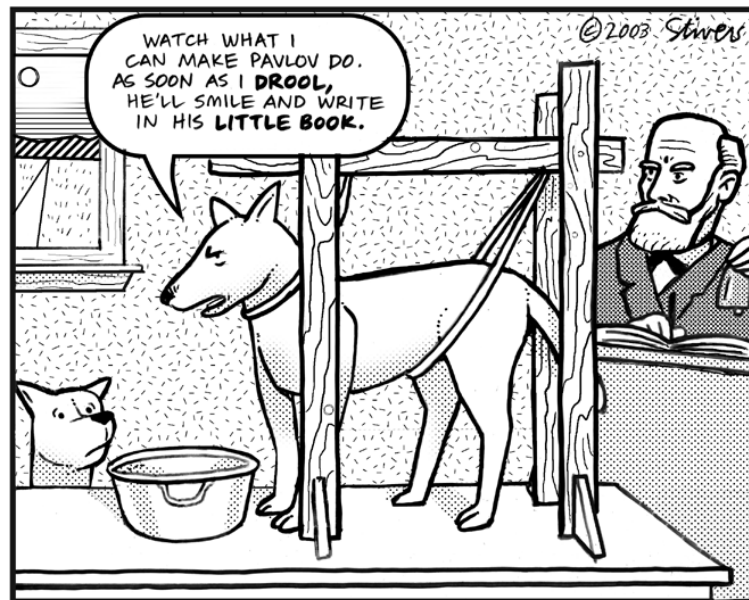


**Is your mind right  
now?**



## Mindfulness is about Process, not content

- It's not about the thought that you have (content) but what the mind does with it (process).
- Process means we are interested in the timing – what happens next?
- Temporal dynamics are best studied using the moving body as here we can practice detecting the subtleties of how experiences unfold in the mind.
- What does the mind do next? is the most important question



## Stimulus – Response

Something Happens

I react

Something Happens



*Mindfulness*

I respond

**Next Week – Indicate some times when you might pause or slow down - record what happened**





**Session Two:      Intention**



**Exercise: Take a look**

What did you notice?

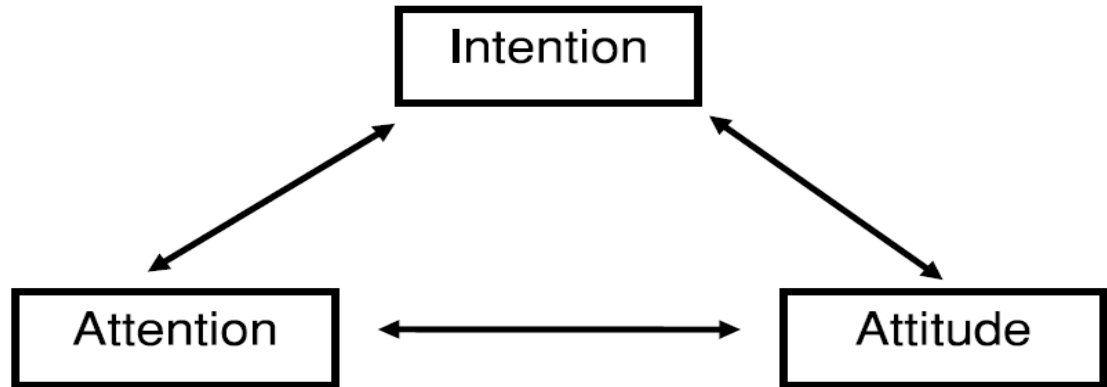
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*Figure 1.* The three axioms of mindfulness, Intention, Attention, and Attitude, are not separate stages. They are interwoven aspects of a single cyclic process and occur simultaneously. Mindfulness is this moment-to-moment process.

Shapiro, S. L., Carlson, L. E., Astin, J. A. and Freedman, B. (2006), Mechanisms of mindfulness. *Journal of Clinical Psychology*, 62: 373–386.

What does intention mean to you?

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Feedback on practice – How does intention relate to this experience?

### Training Intention Detection – Micro to Macro Exercise

What did you observe in this exercise?

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### Intention in the Brain

Neural activity is detectable in the Supplementary Motor Area (**SMA**) 2000ms before the onset of the movement – brain has “decided” to move and is preparing long before we are aware of the movement.

The brain creates a “feed forward” prediction of the movement (like a template in the brain) against which the sensory feedback from the actual movement is compared in order to tell us that

a) we are doing the movement not someone else (i.e.: the movement is self-generated) and

b) whether or not we are reaching our planned goal with the movement (and any corrections required).

The right Dorso Lateral PreFrontal Cortex (**rDLPFC**) and **Cerebellum** are involved in this process of predicting and then monitoring the sensory consequences of intended actions.



Good Review of this theory:

Blakemore, SJ & Decety, J. From the perception of action to the understanding of intention (2001) *Nature Reviews Neuroscience* 2, 561- 567

**Can we begin to fine-tune our ability to observe this intention arise?**

Practicing observing the intention to move allows us the chance to become more skilled at observing more general intentions arise.

Suggestion: Observing the intention to move from one posture to the next (gross body posture changes)

Lying – Sitting

Sitting – Standing-

Standing Still – Moving

Moving – Standing Still

**Own and Others Intentions**

The mechanism via which we understand other's intentions maps onto the same neural architecture via which we understand our own intentions

This is the basis for a socially important capability called “theory of mind” – the ability to infer the intentions and desires of others.

The ability to detect and discriminate between random and goal-oriented (intentional) movement is hard wired and follows a typical developmental trajectory – when this goes wrong there are disastrous consequences for social functioning. We can also enhance this via training in intention detection and mirroring to improve our social functioning.

**Exercise in Pairs – Following Intention in self and others**

- 1. What did you notice paying attention to your intention?**
  
- 2. . What did you notice paying attention to your partner's intention?**

### Session Three: Attention



#### Exercise: Attention to the Face

What did you notice?

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## Mindfulness of Face and Hands

Large areas of brain are dedicated to processing sensations from the hands and face.

With mindfulness of the face and hands we are turning our internal “mind’s eye” or attention to all these rich signals in the brain.

**Experiment:** See if you can detect as many sensations from the knee as you can from the hands/face.

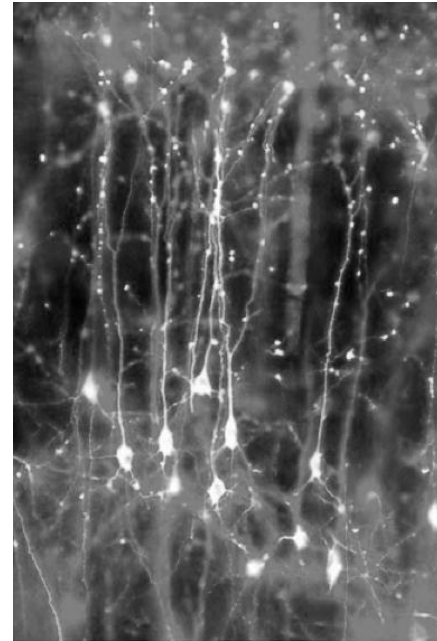
What happened?

**Note:** The challenges of paying attention to some very subtle. What does the mind do then?

**Exercise – Attention and Neuroplasticity**

**What did you observe in this exercise?**

**What surprised you?**

**Neuroplasticity: How do we grow our brains?****GENES x ENVIRONMENT**

Critical period neuroplasticity (neonatal/adolescents)

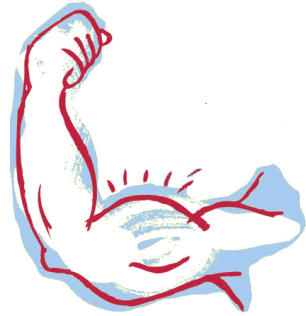
Exogenous neuroplasticity (what goes in)

Endogenous neuroplasticity (what we do with it)

**What changes?**







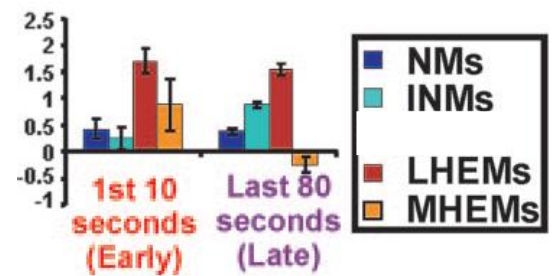
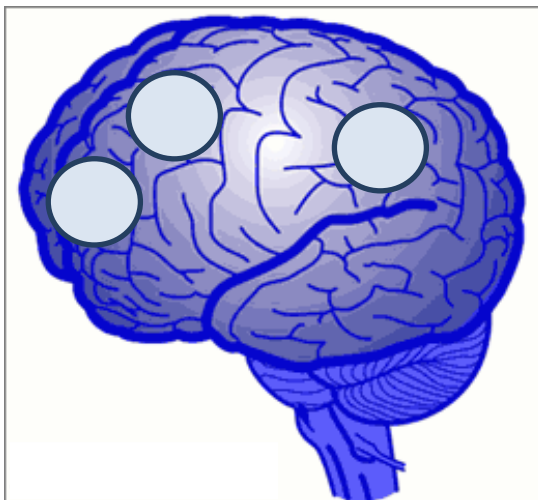
## Brain Workouts

Paying attention = working out a muscle

External/Internal Attention

A network of brain regions related to attention are given a workout and are strengthened as a result.

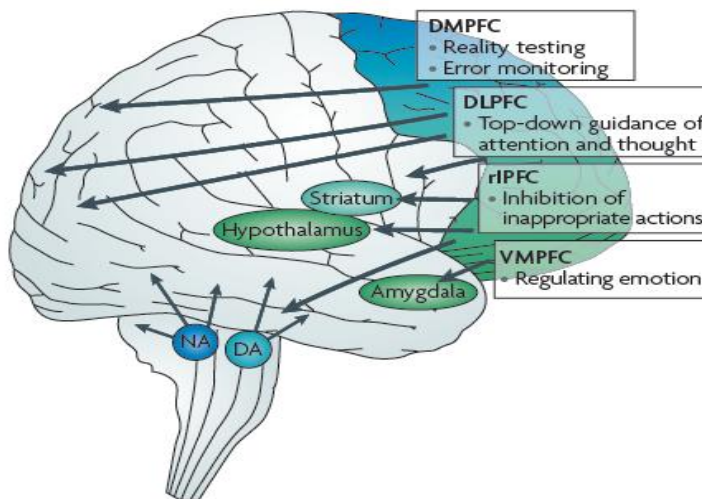
The more you do, the stronger the attentional “muscle”



From: Brefczynski-Lewis et al. (2007). Neural correlates of attentional expertise in long-term meditation practitioners. PNAS, 104, (27) 11483-11488

**What can this stronger attentional muscle allow us to do? Write down here some benefits you can think of:**

**a Prefrontal regulation during alert, non-stress conditions**



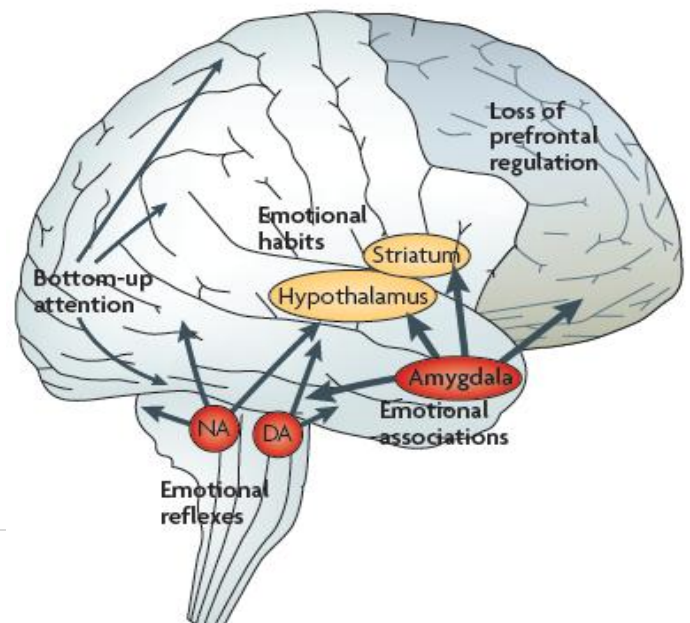
## Attention/Emotion Interface

Emotions hijack attention

and can compromise functioning

How can Mindfulness teach us to be different in these situations?

**b Amygdala control during stress conditions**





## **Exercise: Widening and Narrowing the Focus of Attention**

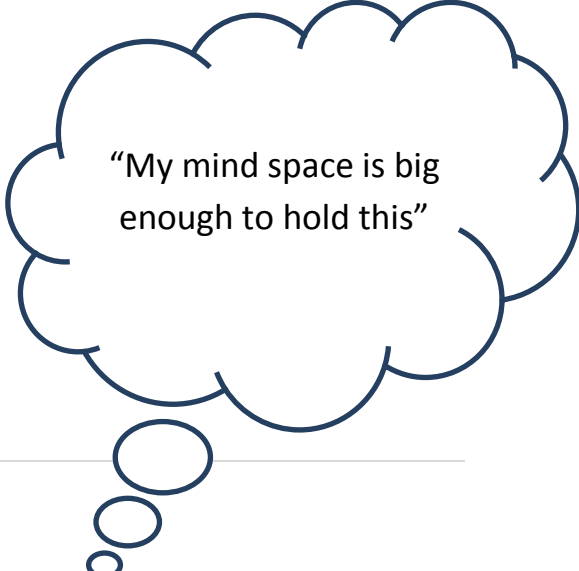
### **External and Internal Eye Exercise**

**What did you notice as we focused and then widened the attention?**

**What did the movement in the mind “feel” like?**

**Why do we need to get to know the signature of these different attentional states?**

- Mind constricts under pressure/stress
- It's trying to help us by doing what it thinks is helpful
- This is not always the case – so we need to apply the antidote – creating more space in the mind, widening our focus of attention.

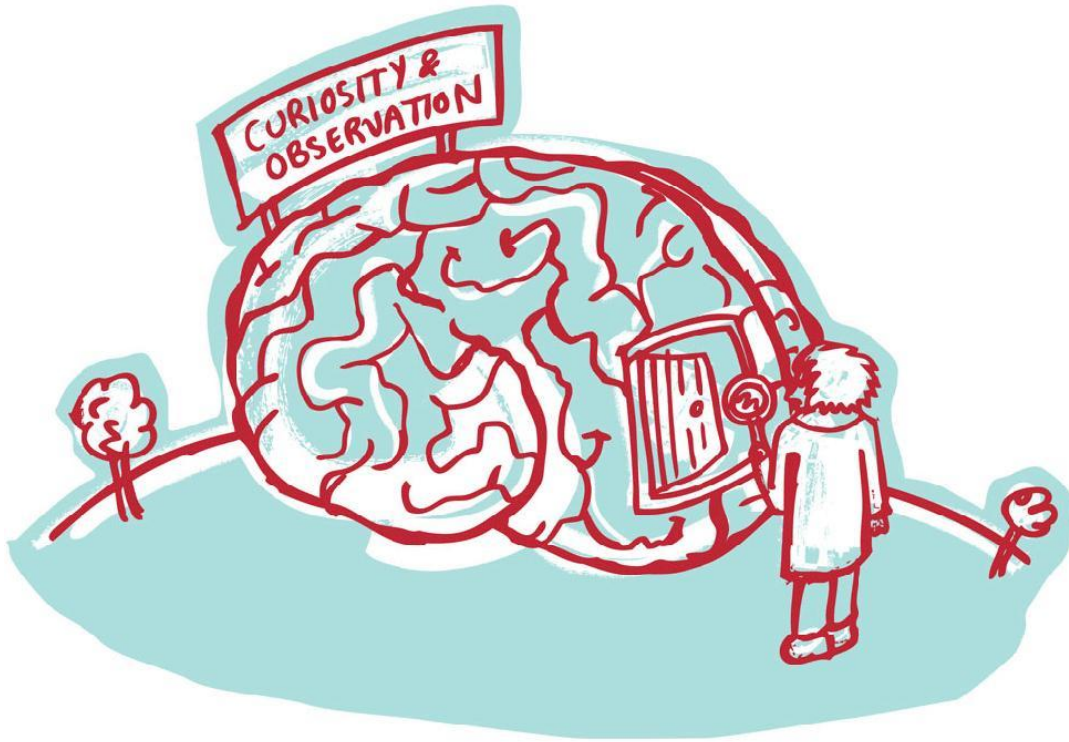


“My mind space is big enough to hold this”

Next Week – Indicate some times when you might observe your attention (internal and external) - record what happened.



Is your mind right  
now?

**Session Four: A PhD in Me****Exercise: Labelling Mental and Physical Experiences**

What did you observe? When you pause, deliberately, to pay attention to the body and mind?

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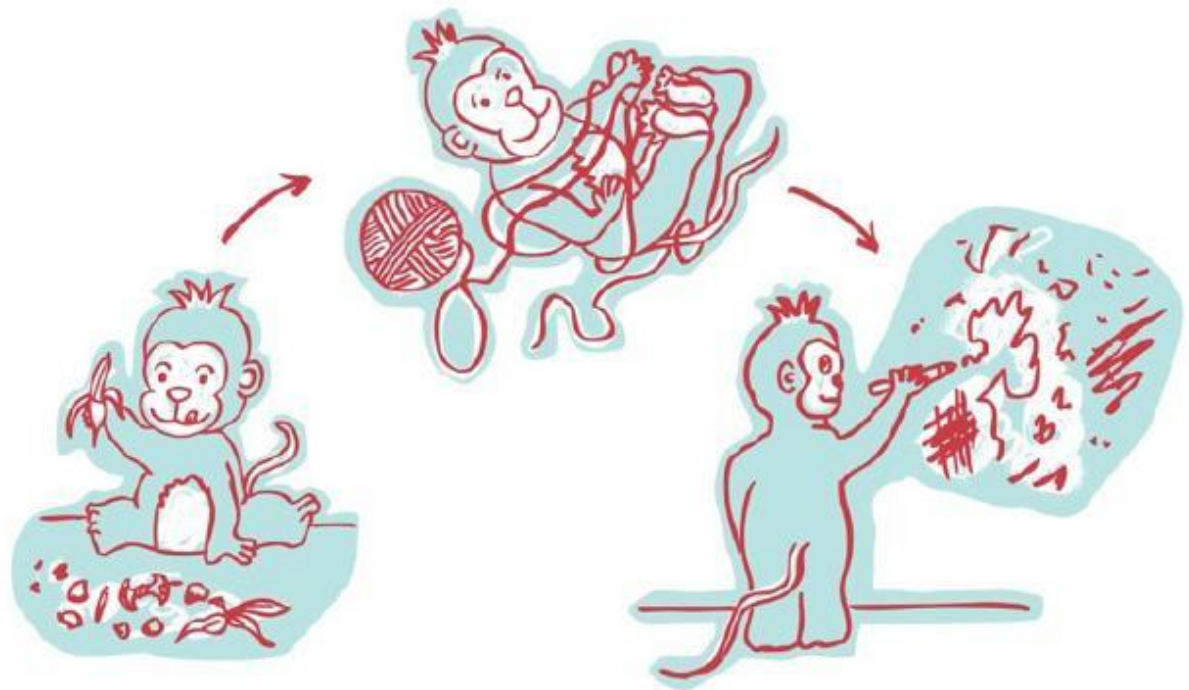
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What are the ways in which you have noticed YOUR mind gets pulled away from the present moment (or any other observations)?

### Getting to know your monkeys

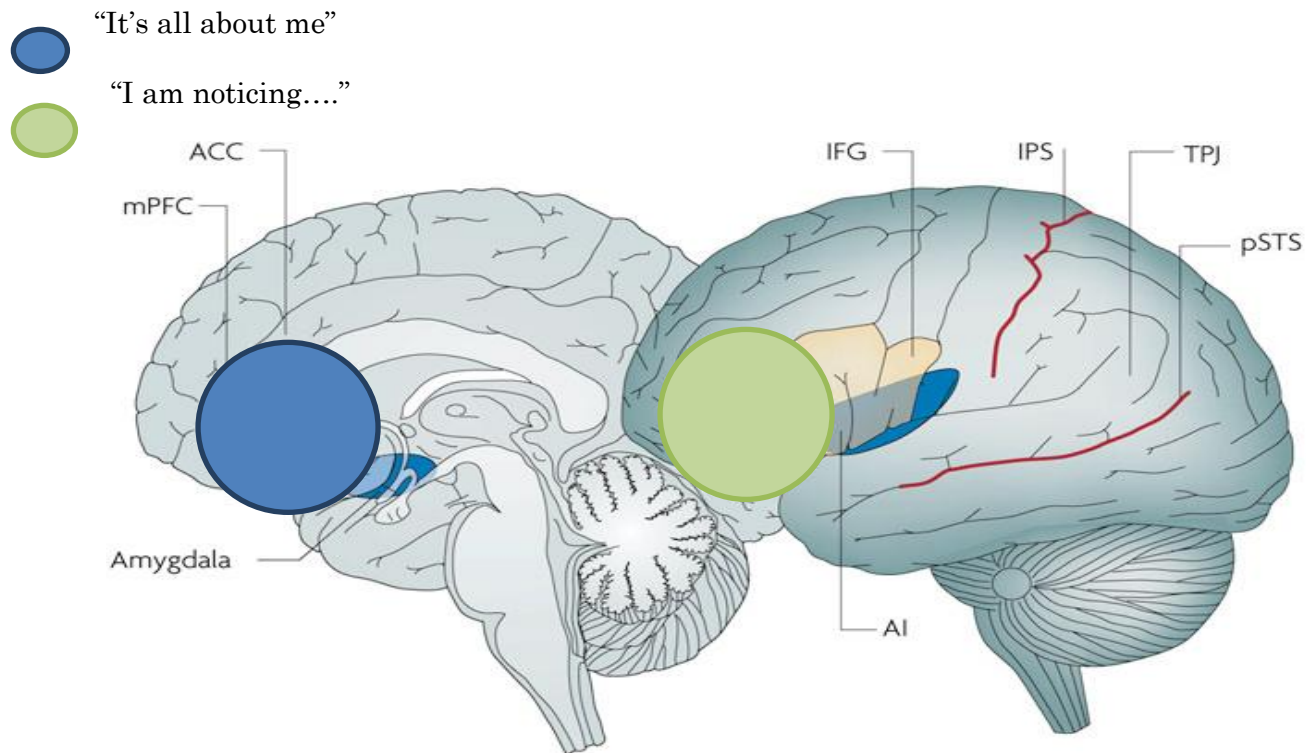


Top Five: Habits of Mind that you have noticed

- 1.
- 2.
- 3.
- 4.
- 5.



## Different modes of Mind in the Brain

Farb et al. (2007) Social Cognitive and Affective Neuroscience, 2, 313-322



## Modes of Mind and the Body

Mindful mode = body regions more connected  to  and less to

MindLESS mode = body regions more connected  to  and less to

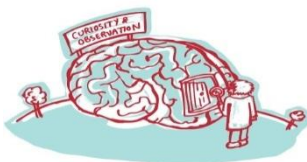
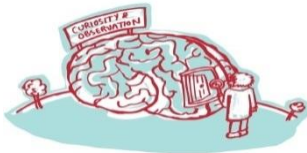
## Take Home Message

Still feeling the same bodily sensations- what the mind DOES with it is different

Stay in the Body = more present, more mindful

## PROCESS not CONTENT

**Next Week – Indicate some times when you might observe your monkeys at play and deliberately move your attention.**



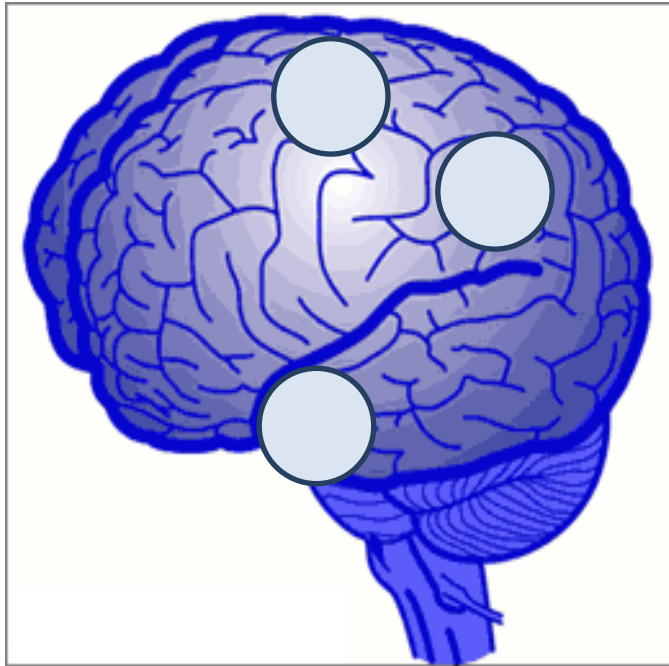


**Session Five:      Taking Care of myself**

What are the things I do to take care of myself?

What do I do to show others that I care for them?

## Compassion in the Brain



- No Frontal Regions (we are FEELING not THINKING)
- Body Related Regions (anterior insula (gut brain), motor and supplementary motor cortices, temporo-parietal junction)
- Emotion Related Regions (amygdala)

**Compassion is in the body = body awareness can increase compassion**

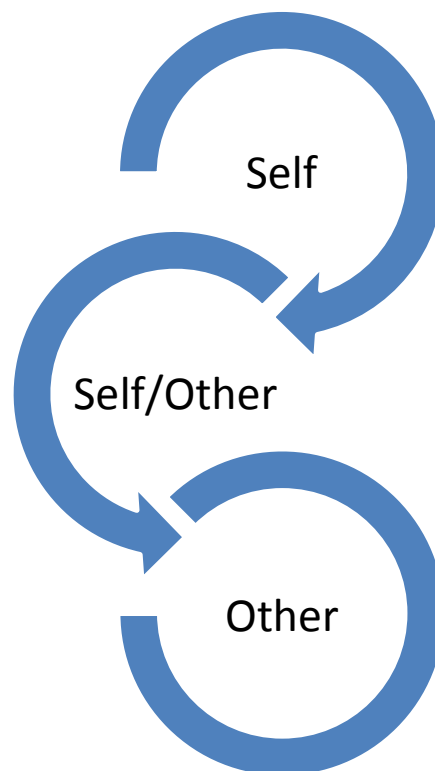


## How do we show/experience compassion and kindness?

Self-compassion comprises three interacting components:

- self-kindness versus self-judgment
- a sense of common humanity versus isolation
- being able to observe our emotions without reacting to them and getting overwhelmed by them

From Neff & Germer, (2012) Journal of Clinical Psychology..



## How do we show compassion to ourselves and others?

### BMT Framework for Life

How could you incorporate these principles into your personal/working life? Record here for each day of the week how you might attempt one of these mindfulness principles (or more than one).



When can you slow down, or pause?



What can you do to be more aware of intention?



How can you remind yourself to notice where your attention is?



What would it be like to really observe and study mental and physical phenomena – like a scientist?



How can you be kinder to yourself and/or others and more at ease?

**Suggested Further Exploration of these topics****Session 1: Pause, Slow, Stop**

The Power of Now - <http://www.eckharttolletv.com/>

In Praise of - <http://www.carlhonore.com/books/in-praise-of-slowness/>

Thinking Fast and Slow by Daniel Kahneman

**Session 2: Intention**

The Brain that Changes itself by Norman Doidge

(<http://www.normandoidge.com/normandoidge.com/MAIN.html>)

Great article about the timings of intention to move

<http://l3d.cs.colorado.edu/~ctg/classes/lib/cogsci/haggard.pdf>

**Session 3: Attention**

The Attention Revolution: Alan Wallace <http://alanwallace.org/>

**Session 4: A PhD in Me**

Write your own book!

**Session 5: Loving Kindness**

Radical Acceptance: Tara Brach (<http://www.tarabrach.com/>)

Christopher Germer <http://www.mindfulselfcompassion.org>

Sharon is also well-known for her “Loving Kindness” meditation practice

<http://www.sharonsalzberg.com/>

Pema Chodron - Some nice articles here <http://pemachodronfoundation.org/articles/>

Her book “Comfortable with Uncertainty: 108 Teachings on Cultivating Fearlessness and Compassion” is also highly recommended

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**Fig 1: Booklet 1 - Stress**



[http://www.bugbog.com/beaches/carribean\\_beaches-2.htm](http://www.bugbog.com/beaches/carribean_beaches-2.htm)

**Fig 2: Teen Stress**



<http://forum.santabanta.com/showthread.htm?t=109882>

## **1. Mindfulness Programme**

The Mindfulness programme is stress reduction training for Adolescents, consisting of 6 booklets and an audio CD for home practice. Mindfulness simply means to intentionally pay particular attention to the present moment without judging whether it is right or wrong. Mindfulness teaches techniques that will help you cope with stress with difficult situations.

### **1.1 Defining stress**

**Table 1:** When people describe emotional stress, these are the words they may use.

Unhappy	Out of control	Anxious
Uncomfortable	Overwhelmed	Frustrated
Freaking out	Nervous	Overcommitted
Worried	Depressed	Lost or confused



**Table 2: Physical stress often described with the following words.**

Tension	Headaches
Panic	Stomach aches
Chest pains	Trouble sleeping
Aches and pains	Dizziness

**Table 3: When people are describing stressful thoughts, they may use these words below.**

Over thinking	Constantly thinking	Negative thinking
Blanking out on things	Having bad thoughts	Have negative thoughts
Having too much to think about	Having difficulty thinking	Having too many things to do
Cannot focus on anything else	Inability to concentrate	Exaggerating things

**1.1.1 Activity 1: How would you describe the effect of stress in your own words?**

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**1.1.2 Activity 2: What is stressing you out right now in your life?**

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**1.1.3 Activity 3: How many of these stressful situations can you change?**

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**1.1.4 Activity 4: How are you coping with stressful situations at the moment?**

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Your thoughts and feelings are very important, in fact, what you think affects the way you feel, thus if you tend to think positively, you will feel happier and less stressed. On the other hand, if you have many negative thoughts, you are more likely to feel stressed. Getting caught - up in a stream of negative thoughts can in fact add to the feeling of stress.

For Example: In doing her homework, Linda started thinking about the break up with her boyfriend. She then began thinking that he did not love her enough. She then started

focusing on occasions when her boyfriend was really cruel to her while they were on holidays. This then led her to think that previous boyfriends were unkind to her. She started to think that she was really unlucky in life. She could no longer focus on what she was doing as she had a bad headache and felt exhausted. This example shows how one negative thought can attract many more negative thoughts making the situation worse.

**1.1.5 Activity 5: Has this ever happened to you? If yes can you give an example?**

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**1.1.6 Activity 6: What sort of feelings did you have during the occasions you just described?**

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Linda's example also shows the connection between mind and body. In Linda's case, her negative thoughts (how bad her boyfriends had treated her, how she was unlucky) led to negative feelings (sadness) and then to bodily changes (crying, tension, headache exhaustion)

Identifying the cause of stress is called the "stressor". The most important first step for you towards change is to identify what your stressors are.

People may experience stress because of problems at school, with friends or family or other situations.

**1.1.7 Activity 7: List one example that is really stressing you out at the moment.**

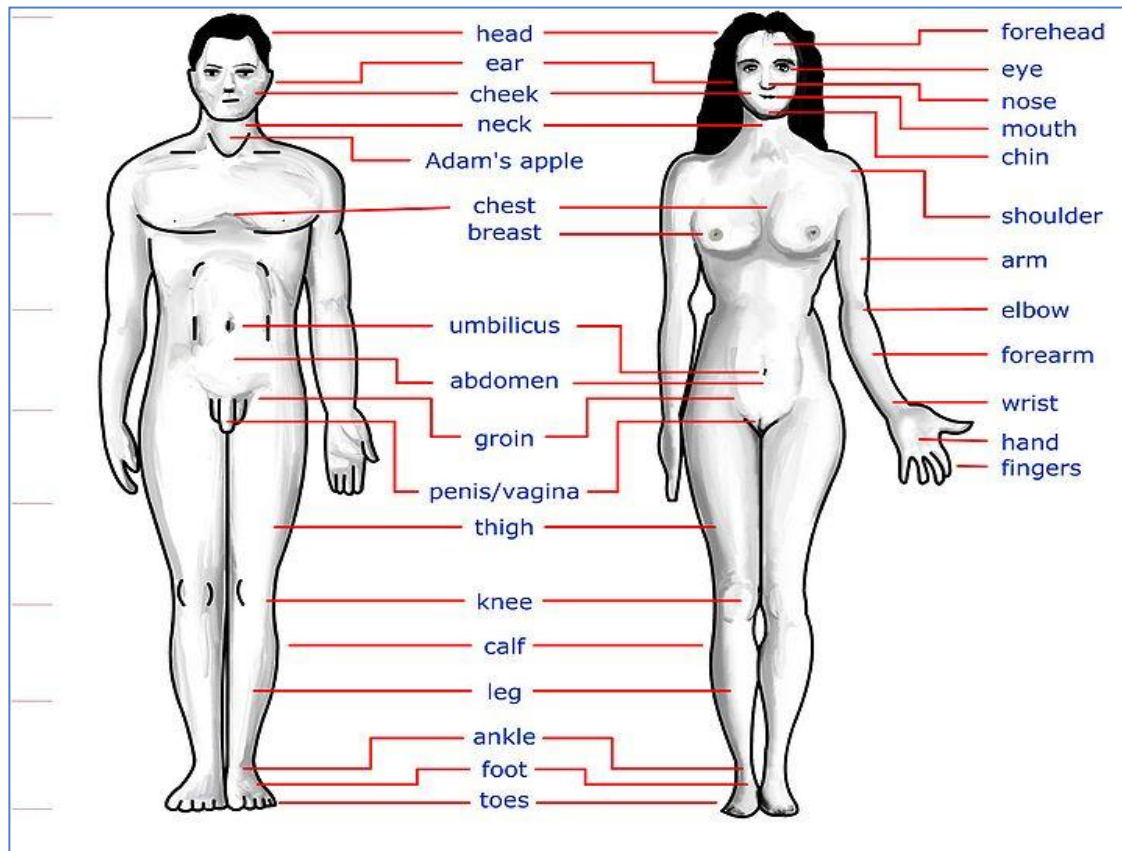
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Next, let's look at the mind- body connection in your case. Look at the labelled diagram of the body and colour any part where you feel physical and emotional discomfort or pain when you are stressed. These bodily sensations are like your body is waving a red flag to tell you that you need to reduce stress.

**Fig 3: Mind-Body Connection**



<http://stanbuckleys.blogspot.com/2011/05/human-body-picture.html>

**Fig 4: Sign of Stress**



<http://www.fiduciaryexpert.com/aig-2003-red-flag-10-year-anniversary/>

**Remember the sign of Stress**

**Well done you have completed the first week.**

**Congratulations.**

**Fig 5: Booklet 2 – Brief Introduction on Mindfulness**



<http://www.travelspecs.com/Blog/top-10-most-beautiful-beaches-in-the-world-for-budget-travelers.html>

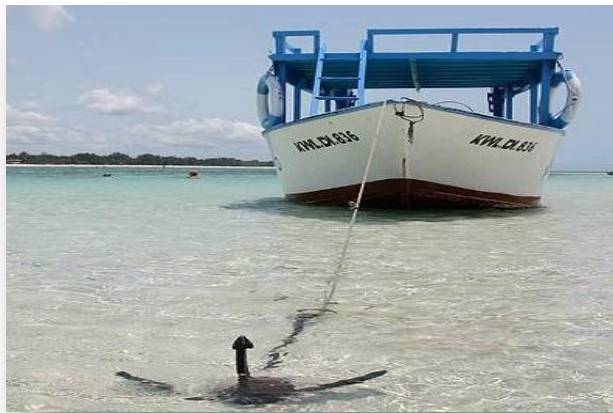
## 1.2 Brief Introduction on Mindfulness

Mindfulness simply means paying attention in a particular way on purpose in the present moment. It means teaching yourself to accept the present moment as it is without judging it as good or bad.

In mindfulness we focus on breathing to help keep us “anchored” in the present moment. We then recognise any thoughts or feelings we have but we teach ourselves not to react or judge. Imagine the anchor of a boat that stays firmly at the bottom of the sea.

This anchor allows us to have something to hold on to while the mind observes our thoughts and feelings.

**Fig 6: A boat with an anchor**



<http://wavingdrowning.wordpress.com/2010/02/24/dragging-the-bottom/anchor-a-boat/>

Just like the mind the boat can move around and drift off. The anchor stays firm at the bottom of the sea. We use the body and breathe in a similar way to the anchor to stop the mind from drifting off and bring the mind back to the present moment.

Therefore when we realise that our mind has wandered off, we gently bring our minds back to refocus on our body and breath.

**Fig 7: Key Concepts**

**Pause**



<http://findicons.com/search/pause>

**Take a good look**



<http://lenleatherwood.wordpress.com>

**Paying attention**



<http://thefortuneacademy.com>



### **1.2.1 Key Concepts**

Intention (Deliberately)

Noticing, observing and describing thoughts and sensations.

Non-judgementally

Acting with full awareness

Not to react to any thoughts and emotions,

We shall explore these key concepts at length in the next session.

### **1.2.2 How can you use Mindfulness and what are the benefits?**

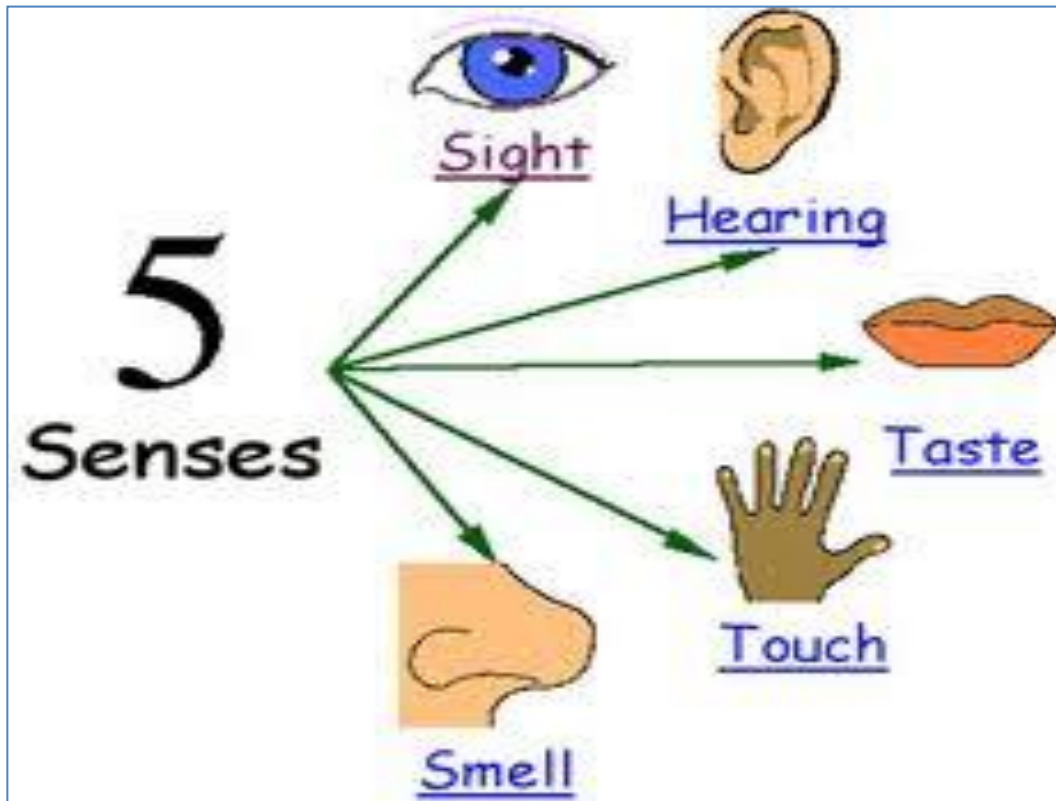
Mindfulness is a toolkit for everyday stress management using the body and breath. During the classes you will learn different exercises that are easy to use in any situation and can help relieve distress.

### **1.2.3 Mindfulness Raisin Exercise to be conducted in the class**

**Aim of this exercise:** This simple exercise will help you realize how many feelings, movements and sensations are part of very simple activities such as eating a raisin.

**Skill learned:** The raisin exercise can show us how we can focus attention on the present moment.

**Fig 8: 5 Senses**



<http://www.google.co.uk/imgres?q=5+senses>

#### **1.2.4 Raisin Exercise - Eating One Raisin: A First Taste of Mindfulness**

##### **1. Holding**

- First take raisin and hold it in the palm of your hand or between your fingers and thumb.
- Focusing on it, imagine that you have just dropped in from Mars and have never seen an object like this before in your life.

##### **2. Seeing**

- Take time to really see it; gaze at the raisin with full attention
- Let your eyes explore every part of it, examining the highlights where the light shines, the darker hollows, the folds and ridges, and any irregular or unique features.

##### **3. Touching**

- Turn the raisin over between your fingers, exploring its texture, maybe with your eyes closed if that enhances your sense of touch.

#### **4. Smelling**

- Hold the raisin to your nose and focus on how it smells and how this smell may affect sensations in your mouth or your tummy.

#### **5. Placing**

Now slowly bring the raisin to your lips, noticing how your hand and arm know exactly how and where to position it. Put your raisin in your mouth and spend a few moments exploring it with your tongue.

#### **6. Tasting**

- Focus next on chewing the raisin, taking a few bites at the beginning and making a mental note of how its taste and texture change over time, moment by moment.

#### **7. Swallowing**

- When you feel ready to swallow the raisin, see if you can first detect the intention to swallow as it comes up, so that even this is experienced consciously before you actually swallow the raisin.

#### **8. Following**

- Finally, see if you can feel what is left of the raisin moving down into your stomach, and sense how the body as a whole is feeling after completing this exercise in mindful eating.

##### **1.2.4.1 Home Practice**

Now that you have a first taste of a mindfulness exercise you may wish to repeat it improving on your focus. It would be nice to do this exercise with a friend or family member.

### 1.2.4.2 Booklet 2 -Mindfulness Exercise Calendar

#### **Mindfulness Abdominal Breathing Exercise to be conducted twice a week.**

Use these questions to focus your awareness on the details of the experience as it is happening when you are conducting your Mindfulness Breathing Exercise. Write it down as soon as possible afterwards. The first part of the table below gives examples of what other people have said during this exercise.

**Table 4: Mindfulness Exercise Calendar**

<b>Question</b>	Mindfulness Breathing Exercise for 6 minutes. What was the experience?	How did your body feel, in detail, during this experience?	What thoughts or images accompanied this exercise when the mind wandered off? (write thoughts in words; describe images)	What moods, feelings and emotions accompanied this exercise?	How was your attitude towards the thoughts emotions, and feelings? At this point what did you do?	What thoughts are in your mind now as you write this down?
<b>Experience</b>	Found your posture a bit uncomfortable or comfortable. Unable to sit still and focus on the breath.	Awareness of shoulders dropping, stiffness of any part of your body. Effect of the clothing on your body e.g. tight or loose clothing	Thinking of holidays, images of the beach comes to my mind. Thinking of stress at school; e.g. having too much homework.	Pleasure, happiness, unhappiness, sorrow	Accommodating attitude, judging whether it is good or bad. I ignored the thoughts, I dwelt on the thoughts.	I realised that there were things in my environment that I never used to notice.

### 1.2.4.3 Mindfulness Raisin Exercise:

Home Practice for next week: to conduct a raisin exercise with your friend, eat a meal mindfully once a week and do breathing exercises.

Focus your awareness on the details of the experience as it is happening when you are conducting your Mindfulness Raisin Exercise. Write it down as soon as possible afterwards.

**Observation for Raisin Exercise:** E.g. slowing down, take a good look, holding, touching, smelling, placing, raisin in the mouth, tasting, swallowing and following what is left of the raisin when it moves down into your stomach. Notice how you the body feels after completing the mindfulness raisin exercise.

**Table 5: Mindfulness Raisin Exercise**

Date	Raisin Exercise	Breathing exercise	Observation

Star Rating:

Attending Session \*

Participating in the Session \*\*

Participating in the Session and willing to carry on  
with the programme \*\*\*

**Well done you have completed the second week.**

**Congratulations.**

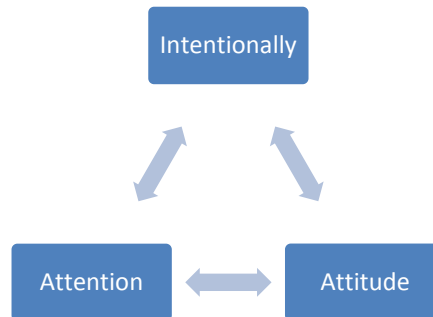
**Fig 9: Booklet 3- Mindfulness Body Scan**



<http://mobileyogaworkout.wordpress.com/2010/04/27/rest-relaxing-and-meditative-postures/>

**1.3: The 3 key ideas of mindfulness are Intention (I), Attention (A), Attitude (A) (IAA)**

**Fig 10: The 3 key ideas of Mindfulness**



**The three axioms of Mindfulness, Intention , Attention and Attitude are not separate stages. They are interwoven aspects of a single cyclic process and occur simultaneously. Mindfulness is the moment –to-moment process.**

**Shapiro, S.L., Carlson, L.E., Astin, J.A and Freedman, B. (2006), Mechanisms of Mindfulness. *Journal of Clinical Psychology*, 62:373-386.**

**Intention** – This means that you are intentionally making an effort to focus on what is happening in the present moment. If you are practising a mindfulness breathing exercise, you would deliberately focus your attention on your body and breath.

**Attention-** Paying particular attention on purpose in the present moment. When you notice that your mind wanders off, observe what captured your attention, but bring your mind back to your present exercise.

**Attitude-** Your attitude towards any thoughts and emotions that comes to your mind when you are participating in the mindfulness exercise should be acknowledged but not judged. This can be hard at first, but with practice you will acquire the skill to accept all thoughts and emotions without judgement.

**1.3.1 Mindfulness Body Scan Exercise**

The Mindfulness body scan is an exercise that allows us to re-establish contact with our body. It guides us by paying attention directly and systematically to each part of the body in the present moment. This is an effective technique for developing both concentration and flexibility of your attention at the same time. This exercise involves lying down on your back and moving your mind through the different regions of your body.

You may start this exercise with the toes of the left foot and slowly moving it up from the left foot to the leg, feeling the sensation as you go along. Then carry on by bringing your attention to the toes of your right foot and right leg and notice any sensation, any stiffness and tenderness there. Then carry on moving to the next part of your body until you have gone through your entire body.

While conducting this exercise, you may notice that your mind will inevitably wander away from the body and breath (referred to as the anchor) from time to time. That is entirely normal, that is what minds do, when you notice this, gently acknowledge it with a kind attitude, compassionate attitude then gently return your attention to refocus on your body scan.

By the time you have completed the body scan exercise, you will be more aware of different sensations that you experienced in your body.

Since the body scan is done lying down ,it is very easy to fall asleep and if you find yourself falling asleep, you might want to find it useful to prop your head with a pillow, open your eyes or do the practice sitting up rather than lying down. Body scan will allow you to notice any sensations in the body, enabling you to describe any bodily sensation you experience during the exercise.

**When practising this exercise, pay attention to the following:**

- Take time to settle in and not to rush
- Posture - Lie down preferably on your back on the mat on the floor, with your two arms on your side with your heels resting on the floor and feet gently falling outwards. Be aware of your posture and try not to move. If you are sitting down, then ensure that you sit up straight and relaxed your shoulders. You may place your hands on the side of the chair or on your thighs. You may remove your shoes if you wish to do so. You may have your eyes open or closed.



**Fig 11: A lady conducting body scan on the floor**



<http://www.burrenyoga.com/retreats-holidays/yoga-nidra-cd.htm>

**Fig 12: A gentleman conducting Mindfulness Body scan/breathing**



<http://site.rollingsandsharmony.com/blog/2010/07/05/meditation-sitting-and-breathing/>

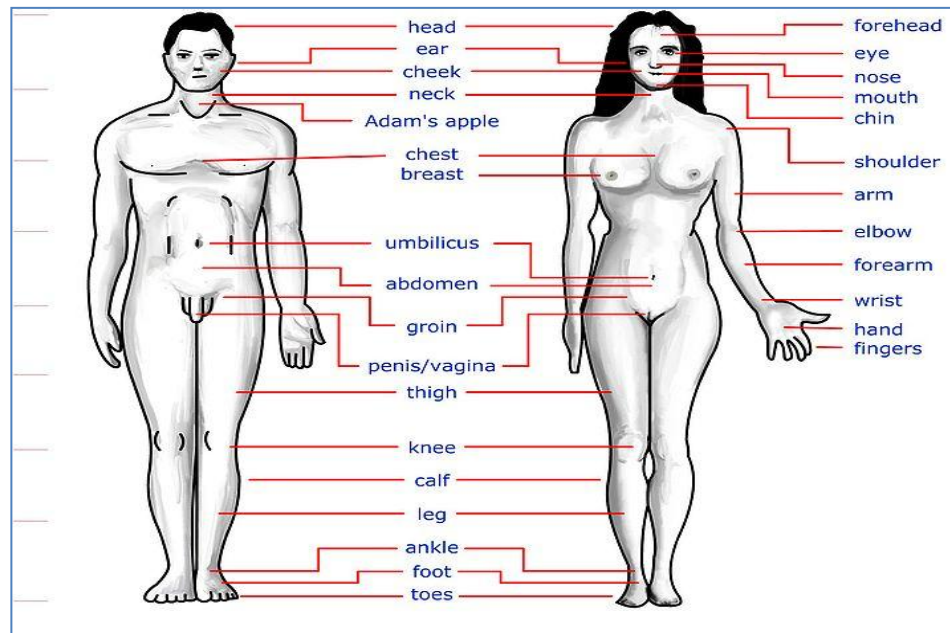
**Be aware of the following:**

- Awareness of clothing - Are they comfortable, loose or too tight?
- Awareness of body pressing on the floor/chair.

- Breathing and awareness of movement of the body as you inhale and exhale- The rise and fall of the belly as you inhale and exhale.
- Noticing being anxious, agitation, uncomfortable, body tingling, body sensation, any emotions, relaxation, any warmth, coolness and numbness.
- Awareness of body parts associated with memories, thoughts, feelings, emotions.
- Awareness of the work of the body parts: Hearts, lungs and movement of the ribs while breathing.
- Noticing a number of body sensations (but we do not have to try to change it).
- Noticing when the mind wanders off and if you experience any thoughts and feelings at this particular moment, acknowledge it with a compassionate attitude and bring your mind to refocus on your present exercise.
- You can end the body scan by wiggling your toes and fingers. You may move your hands and feet intentionally and you might also massage the face and rock a little from side to side before opening our eyes and returning to the activity of the day.

**Skills Learnt:** To focus attention on different body sensations. To remain open and acceptable encouraging in awareness.

**Fig 13:            Labelled figure of the human body**



<http://stanbuckleys.blogspot.com/2011/05/human-body-picture.html>

### **1.3.2    Feedback and inquiry of the body scan exercise with group.**

Describing - what are some of the words we can use to describe our experience in the body: pain, stiffness, coolness, warmth, heaviness, muscle tension, anxiety, happiness, sadness, agitation, relaxation, distraction.

How did your body feel? Where in the body did you feel it? What did you do when you felt it? Did you notice any of the following? unable to remain still, uncomfortable positions, distraction in the environment, distraction when the thoughts wander off, sensation of clothing.

**Well done you have completed the third week.**

**Congratulations.**

### **1.3.3    Mindfulness Exercises**

**Booklet 3 Mindfulness Abdominal Breathing exercise and Body Scan Exercise to be conducted twice a week**

Use these questions to focus your awareness on the details of the experience as it is happening when you are conducting your Mindfulness Breathing Exercise. Write it down as soon as possible afterwards.

**Observation for Body Scan:** E.g. Posture/Awareness of different parts of your body as you start paying attention from the head and working your way down to your toes. Noticing any bodily sensation, stiffness, effects of clothing on body (too tight/too loose). What do you do when you notice distractions in the environment?

**Table 6: Abdominal Breathing, Body Scan Exercise**

<b>Day</b>	<b>Breathing Exercise/ 8 Minutes</b>	<b>Body Scan/ 10 minutes</b>
Monday	Time: Observation:	Time: Observation:

Star Rating:

Attending Session

\*

Participating in the Session

\*\*

Participating in the Session and willing to carry on  
with the programme

\*\*\*

**Fig 14:**        **Booklet 4 - Our Minds**



<http://www.tcsimpson.com/image.drawing.distractio.htm>

## 1.4 Our Minds

Our minds are very often busy and pre occupied with thoughts and emotions of the past, present and future. When our mind is in this state, it is often very difficult to concentrate and make effective decisions.

The picture above shows how the mind is distracted by numerous thoughts.

### 1.4.1 Walking the puppy analogy:

The puppy represents the mind. The puppy tends to wander off in different directions. The mind tends to do the same. Mindfulness shows us how to keep our mind focused on one direction without being hard on ourselves. This is illustrated by the lady in the picture trying to bring back the puppy with a kind attitude as you can see by the smile on her face.

**Fig 15: Puppy Analogy**



<http://tysblahg.wordpress.cottp://www.clker.com/clipart-11637-html>

The picture below shows what can happen when we do not control our thoughts and emotions. We are like the girl running after the puppy rather than controlling the puppy.

**Fig 16: Puppy Analogy**



<http://tysblahg.wordpress.cottp://www.clker.com/clipart-11637-html>

Observation

#### **1.4.2 Beach Analogy**

This analogy helps us understand what it means to “observe” Imagine our thoughts and feelings. Imagine your thoughts being activities on the beach. Imagine you are also at the beach but you are just watching the activities without taking part. Your thoughts and feelings are like” activities on the beach”, you can watch them but you do have to engage with them.

**Fig 17: Beach Analogy**



<http://www.fotolibra.com/gallery/838508/woman-sitting-on-tropical-beach/>

#### **1.4.3 The Party Analogy**

If you have a party in session and you have invited your good friends, once you notice that uninvited friends have turned up at the party, you might start stressing yourself out. At this point the best thing for you to do is take notice of all the guests that are in the party without judging whether they are good or bad. Focus all your attention on the party itself, not concentrating on bad non-invitees -bad thoughts or the good friends invited –good thoughts. Similarly when you are conducting a mindfulness exercise, you will notice that good or bad thoughts will come to your mind. At this point it is important that you notice these thoughts with a kind and accommodating attitude without being judgmental and let them go. Refocus your attention to your Mindfulness exercise.



**Fig 18: Party Analogy**



<http://www.thegoodnewsblog.co.uk/page/4/>

Here are some ways to do this:

### **Describing:**

Describe your thoughts and feelings. If it is a sad thought just notice it and acknowledge it. Say: this is a bad thought. If the thought is a happy thought say: this is a happy thought. Remember that you can observe thoughts and feelings as you can observe activities on the beach. You acknowledge what is happening but you do not engage.

### **Being Non Judgmental**

Having bad and good thoughts, feelings and experiences is all part of life. Accepting this simple truth is very difficult. We all tend to judge ourselves and others, events and situations and we get either upset (if “bad”) or too excited (if “good”)

#### **1.4.4 Mindfulness**

Mindfulness shows us how we can control our thoughts and feelings. During the mindfulness exercises we learn how to focus on one thing at a time in the here and now. During the mindfulness exercise, we learn to focus our attention on every detail of the

exercise. The details themselves are not important but they are “anchors” that helps us learn the skills necessary to control our minds.

#### **1.4.5 Change of Habit**

Learning to control our minds is a new skill. Our routine way is to get caught up in our thoughts and feelings. So mindfulness requires us to change our “mind’s habits”. This can be difficult. For example, when you get up in the morning, you have a shower, some breakfast and off to school. Changing this routine is often difficult as it requires doing something differently. Just like changing your habits, adopting mindfulness practice in our daily routine will initially be a little difficult. This is because we are learning new skills and we are doing things differently than in our usual routine. This may also lead to some benefits.

**Well done you have completed the fourth week.**

**Congratulations.**

#### 1.4.6 Mindfulness Exercises

**Booklet 4 Mindfulness Abdominal Breathing Exercise and Mindfulness Body Scan Exercise to be conducted once a week, Change of habit to be conducted twice a week.**

Use these questions to focus your awareness on the details of the experience as it is happening when you are conducting your Mindfulness Breathing Exercise. Write it down as soon as possible afterwards.

**Observation for Body Scan:** E.g. Posture/Awareness of different parts of your body as you start paying attention from the head and working your way down to your toes. Noticing any bodily sensation, stiffness, effects of clothing on body (too tight/too loose). What do you do when you notice distractions in the environment?

**Change of Habit:** Notice the effect of changing your daily routine, notice how you slow down when you are changing your habit and how this may lead to some benefit. How do you feel afterwards?

**Table 7: Abdominal Breathing, Body Scan and Change of Habit Exercise**

Day	Breathing Exercise/ 6 Minutes	Body Scan/ 10 minutes	Change of habit
	Time: Observation:	Time: Observation:	

Star Rating:

Attending Session

\*

Participating in the Session

\*\*

Participating in the Session and willing to carry on with the programme

\*\*\*

**Fig 19:**        **Booklet 5- Check in with the Body**



[http://med.stanford.edu/scopeblog/meditation\\_110410.jpg](http://med.stanford.edu/scopeblog/meditation_110410.jpg)

#### **1.4.7 “Check in with the Body” Exercise**

This is an exercise that we can do virtually anytime and anywhere. We simply slow down, pause and focus on the body, noticing any bodily sensations that we experience at that moment. Most of our thoughts and feelings involve our body as well. For example, when we are afraid our heart beats faster; our muscles tense and we may sweat. So it can work the other way round. Noticing our body sensations can help us understand better how we feel.

**Well done you have completed the fifth week.**

**Congratulations**

#### 1.4.8 Mindfulness Exercises

**Booklet 5 Mindfulness Abdominal Breathing Exercise, Mindfulness Body Scan**  
**Exercise to be conducted once a week and check In with the Body to be conducted twice a week.**

Use these questions to focus your awareness on the details of the experience as it is happening when you are conducting your Mindfulness Breathing Exercise. Write it down as soon as possible afterwards.

**Observation for Body Scan:** E.g. Posture/Awareness of different parts of your body as you start paying attention from the head and working your way down to your toes. Noticing any bodily sensation, stiffness, effects of clothing on body (too tight/too loose). What do you do when you notice distractions in the environment?

**Check in with the body:** Notice the effect of slowing down and just focus on what is happening to the body, what the body feels like at this particular moment.

**Table 8: Abdominal Breathing, Body Scan and Change of Habit Exercise**

Day	Breathing Exercise/ 8 Minutes	Body Scan/ 10 minutes	Check In the body
Monday	Time: Observation:	Time: Observation:	

Star Rating:

Attending Session

\*

Participating in the Session

\*\*

Participating in the Session and willing to carry on  
with the programme

\*\*\*



**Fig 20:**            **Booklet 6- Mindfulness Practice**



### 1.5 Practice Mindfulness

Why stay in this horrible dark Tunnel and be miserable and let Stress rule your life?

**Fig 21: Light at the end of the tunnel**



<http://www.google.co.uk/imgres?q=young+people+in+dark+tunnel>

Keep on practicing Mindfulness; this will lead you out of this Tunnel, it will help you to cope with your daily stresses of life better and enhance the quality of life.

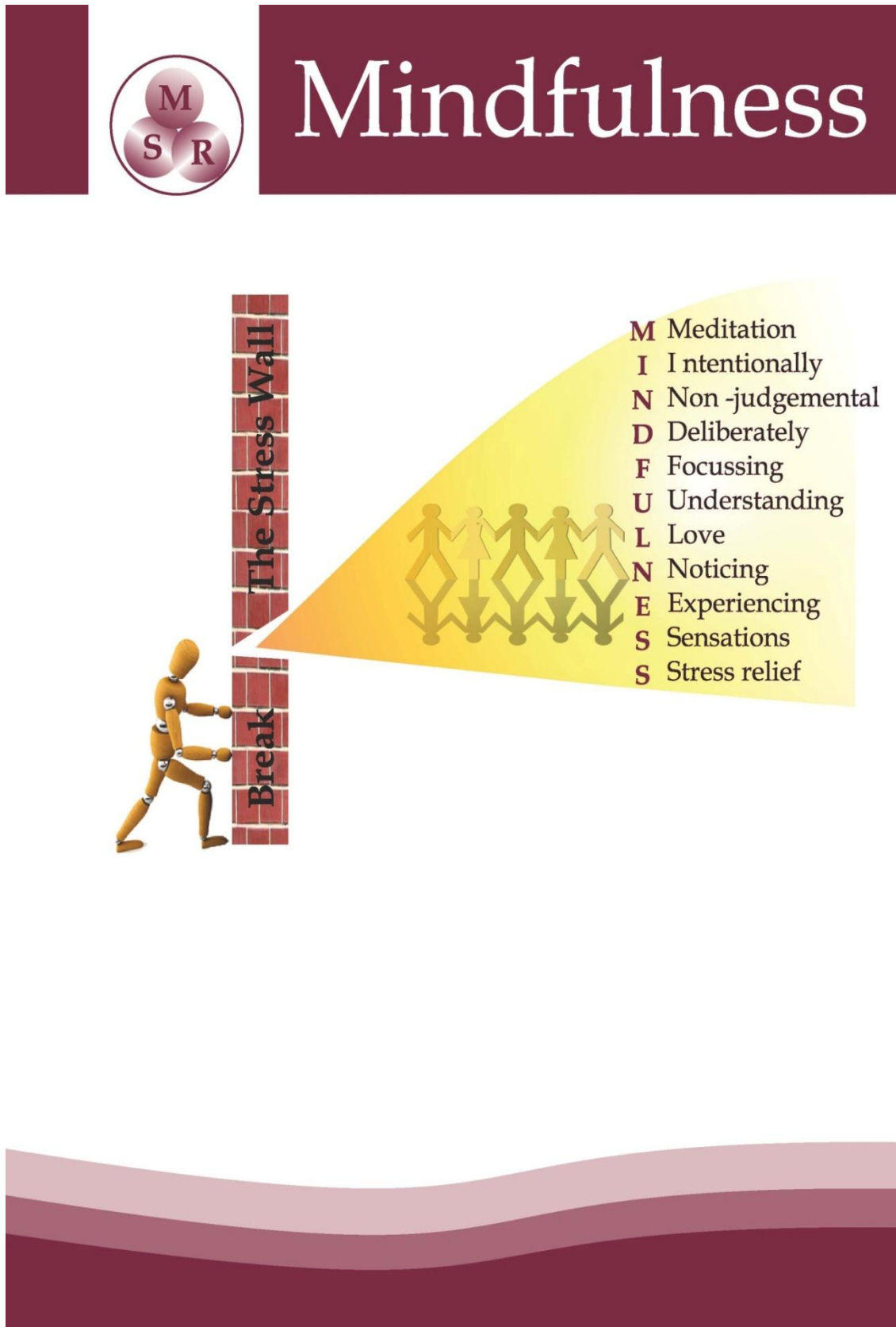
**Fig 22: Keep on practicing Mindfulness**



<http://www.google.co.uk/imgres?q=coming+out+of+the+dark>



Fig 23: Break the stress wall



Your problems will not go away but you will be able to learn techniques that will increase resilience which in turn will enable you to manage your stress better.

**Fig 24:** Have a good relationship with your work colleagues and manage your stress level



<http://stanbuckleys.blogspot.com/2011/05/human-body-picture.html>

**Fig 25:** You will be able to enjoy life with friends and focus on your study and cope with stressful situations in school and at home.



<http://stress.about.com/od/tensiontamers/a/exercises.htm>

Write a letter to yourself listing the set goals you wish to accomplish with the practice of Mindfulness. Seal the envelope containing the letter and after three months revisit the

contents of the letter and make a comparison of your present state of mindfulness to that of 3 months ago.

**Fig 26: Writing a letter to yourself**



<http://www.grook.net/forum/general-discussion/career-tips/how-to-sign-professional-letter>

### 1.5.1 Create your own mindfulness exercise

You are probably now getting the idea that virtually any activity can be a mindfulness exercise, in a way. It would be helpful if you practice a mindfulness breathing exercise, body scan meditation or any other exercise that focuses on mindfulness. You can bring mindfulness to anything you do, and find yourself less stressed and more grounded in the process. For example texting, being with friends or family, playing a sport, going to sleep, brushing your teeth, playing computer games, playing musical instruments having a shower, dancing, cooking and many more.

#### For Further reading:

The Stress Reduction Workbook for Teens by Gina M. Biegel, . Visit her online at [www, stressedteens.com](http://www.stressedteens.com).

**Fig 27: Congratulations**



<http://www.imgion.com/images/01/Did-it-Congratulation-.png>

**Well done you have completed the sixth week.**

**Congratulations**